

FUNDAMENTAL OF NURSING

TEACHER'S GUIDE SENIOR 5 ASSOCIATE NURSING PROGRAM

First Edition

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FORWARD

Dear Teacher,

The Rwanda Basic Education Board is pleased to present this Teacher's Guide for the Associate Nursing Program. This guide is designed to support competence-based teaching and ensure consistency in delivering the Fundamentals of Nursing subject. The Rwandan educational philosophy aims to help student-associate nurses achieve their full potential, preparing them to address community health needs and pursue career opportunities.

To enhance education quality, the government of Rwanda emphasizes the alignment of teaching materials with the syllabus. Effective teaching relies on the relevance of content, pedagogical approaches, assessment strategies, and instructional materials. The guide focuses on activities that promote learning, allowing students to develop ideas and make discoveries.

In a competence-based curriculum, learning involves actively building knowledge and skills through activities, scenarios, and real-life applications. Your role as a teacher includes:

- Planning lessons and preparing teaching materials.
- Organizing group discussions and collaborative learning.
- Engaging students through active learning methods such as inquiry, research, and group work.
- Supporting and facilitating the learning process by valuing student contributions and guiding them towards integrating their findings.

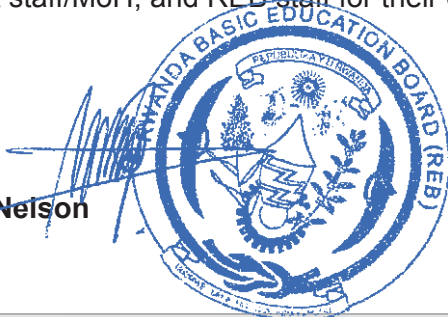
This guide is divided into three parts:

1. Explains the book's structure and provides methodological guidance.
2. Offers sample lesson plans for reference.
3. Provides detailed teaching guidance for each concept in the student book.

Although the guide includes answers to student book activities, please review each question and activity before assessing student responses.

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Dr. MBARUSHIMANA Nelson
Director General, REB



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MURUNGI Joan

Head of Curriculum, Teaching, and Learning Resources Department / REB

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ACRONYMS AND ABBREVIATIONS

- **TTCs:** Teacher Training Centers
- **RICE:** Rest, Ice, Compression and Elevation
- **OSCE:** Objective Structured, Clinical Evaluation
- **CSE:** Comprehensive Sexuality Education
- **CBC:** competence Based Curriculum
- **HIV/AIDS:** Human immunodeficiency virus / acquired immunodeficiency syndrome
- **HCV:** Hepatitis C virus
- **HBV:** Hepatitis B virus
- **ABCDE:** Airway Breathing Circulation Disability and Exposure
- **START:** Simple Triage and Rapid Treatment
- **EMS:** Emergency medical service
- **SAMU:** Service d'Aide Médicale d'Urgence
- **CPR:** Cardiopulmonary Resuscitation
- **AED:** Automated external defibrillator
- **DRSABCDE:** Dangers Response Shout Airway Breathing Circulation Disability and Exposure

PART I. GENERAL INTRODUCTION

1.0 About the teacher's guide

This book is a teacher's guide for Fundamentals of Nursing subject, for senior five in Associate Nursing program. It is designed to accompany student book and intends to help teachers in the implementation of competence based curriculum specifically Fundamentals of Nursing syllabus.

As the name says, it is a guide that teachers can refer to when preparing their lessons. Teachers may prefer to adopt the guidance provided but they are also expected to be more creative and consider their specific classes' contexts and prepare accordingly.

1.1 The structure of the guide

This section presents the overall structure, the unit and sub-heading structure to help teachers to understand the different sections of this guide and what they will find in each section.

Overall structure

The whole guide has three main parts as follows:

Part I: General Introduction

This part provides general guidance on how to develop the generic competences, how to integrate cross cutting issues, how to cater for students with special educational needs, active methods and techniques of Fundamentals of Nursing and guidance on assessment.

Part II: Sample lesson plan

This part provides a sample lesson plan, developed and designed to help the teacher develop their own lesson plans.

Part III: Unit development

This is the core part of the guide. Each unit is developed following the structure below. The guide ends with references.

Each unit is made of the following sections:

- **Unit title:** from the syllabus
- **Key unit competence:** from the syllabus
- **Prerequisites** (knowledge, skills, attitudes and values)

This section indicates knowledge, skills and attitudes required for the success of the unit. The competence-based approach calls for connections between units/topics within a subject and interconnections between different subjects. The teacher will find an indication of those prerequisites and guidance on how to establish connections.

Cross-cutting issues to be addressed

This section suggests cross cutting issues that can be addressed depending on the unit content. It provides guidance on how to come up with the integration of the issue. Note that the issue indicated is a suggestion; teachers are free to take another cross-cutting issue taking into consideration the learning environment.

Guidance on the introductory activity

Each unit starts with an introductory activity in the teacher's book. This section of the teacher's guide provides guidance on how to conduct this activity and related answers. Note that students may not be able to find the right solution but they are invited to predict possible solutions or answers. Solutions are provided by students gradually through discovery activities organized at the beginning of lessons or during the lesson.

List of lessons/sub-heading

This section presents in a table suggestion on the list of lessons, lesson objectives copied or adapted from the syllabus and duration for each lesson. Each lesson / subheading is then developed.

End of each unit

At the end of each unit the teacher provides the following sections:

- Summary of the unit which provides the key points of content developed in the teacher's book.
- Additional information which provides additional content compared to the student book for the teacher to have a deeper understanding of the topic.
- End unit assessment which provides answers to questions of the end unit assessment in the teacher's book and suggests additional questions and related answers to assess the key unit competence.
- Additional activities :(remedial, consolidation and extended activities). The purpose of these activities is to accommodate each student (slow, average and gifted) based on the end of unit assessment results.

Structure of each sub heading

Each lesson / sub-heading is made of the following sections:

Lesson / Sub heading title 1:

Prerequisites / Revision / Introduction:

This section gives a clear instruction to teacher on how to start the lesson.

Teaching resources

This section suggests the teaching aids or other resources needed in line with the activities to achieve the learning objectives. Teachers are encouraged to replace the suggested teaching aids by the available ones in their respective schools and based on learning environment.

Learning activities

This section provides a short description of the methodology and any important aspect to consider. It provides also answers to learning activities with cross reference to student's book.

Exercises / application activities

This provides questions and answers for exercises/ application activities.

1.2 Methodological guidance

1.2.1 Developing competences

Since 2015 Rwanda shifted from a knowledge based to a competence based curriculum for pre-primary, primary and general secondary education. For TTCs, it is in 2019 that the competence based curriculum was embraced. This called for changing the way of learning by shifting from teacher centered to a learner centered approach. Teachers are not only responsible for knowledge transfer but also for fostering teacher's learning achievement, and creating safe and supportive learning environment. It implies also that a student has to demonstrate what he/she is able to do using the knowledge, skills, values and attitude acquired in a new or different or given situation.

The competence-based curriculum employs an approach of teaching and learning based on discrete skills rather than dwelling on only knowledge or the cognitive domain of learning. It focuses on what learner can do rather than what students know. Students develop basic competences through specific subject unit competences with specific learning objectives broken down into knowledge, skills and attitudes. These competences are developed through learning activities disseminated in learner-centered rather than the traditional didactic approach. The students are evaluated against set standards to achieve before moving on.

In addition to specific subject competences, students also develop generic competences which are transferable throughout a range of learning areas and situations in life. Below are examples of how generic competences can be developed in Biology:

Generic competence	Examples of activities that develop generic competences
Critical thinking	<ul style="list-style-type: none"> • Describe the relationship and interdependence of sciences • Observe, record, interpret data recorded during experiments • Identify and use the applications of Fundamentals of Nursing concepts to solve problems of life and society
Research and Problem solving	<ul style="list-style-type: none"> • Research using internet or books from the library • Design a project for making bioplastics • Design a questionnaire for data collection during field visit
Innovation and creativity	<ul style="list-style-type: none"> • Create an experiment procedure to prove a point • Develop a graph to illustrate information • Design a data collection survey/questionnaire • Conduct experiments with objectives, methodology, observations, results, conclusions • Identify local problems and ways to resolve them
Cooperation, Personal and Interpersonal management and life skills	<ul style="list-style-type: none"> • Work in Pairs • Small group work • Large group work
Communication	<ul style="list-style-type: none"> • Organise and present in writing and verbally a complete and clear report of an experiment • Observe, record, interpret the results of a measurement accurately. • Select and use appropriate formats and presentations, such as tables, graphs and diagrams.
Lifelong learning	<ul style="list-style-type: none"> • Exploit all opportunities available to improve on knowledge and skills. Reading scientific journals to keep updated.

1.2.2 Addressing cross cutting issues

Among the changes in the competence based curriculum is the integration of cross cutting issues as an integral part of the teaching learning process-as they relate to and must be considered within all subjects to be appropriately addressed. The eight cross cutting issues identified in the national curriculum framework are: genocide studies, environment and sustainability, gender, comprehensive sexuality education (CSE), peace and values education, financial education, standardization culture and inclusive education.

Some cross cutting issues may seem specific to particular learning areas or subjects but the teacher needs to address all of them whenever an opportunity arises. In addition, student should always be given an opportunity during the learning process to address these cross cutting issues both within and out of the classroom so as to progressively develop related attitudes and values.

Below are examples on how crosscutting issues can be addressed in fundamentals of nursing:

Cross-cutting issues	Examples on how to integrate the cross-cutting issues
Inclusive education	Involve all students in all activities without any bias. Eg: Allow a student with physical disability (using wheelchair) to take notes or lead the team during an experiment.
Gender	Involve both girls and boys in all activities: No activity is reserved only to girls or boys. Teacher should ensure equal participation of both girls and boys during experiments as well as during cleaning and tidying up related activities after experiments.
Peace and values education	During group activities, debates and presentations, the teacher will encourage students to help each other and to respect opinions of colleagues.
Standardization culture	Some lessons involve carrying out experiments. Instruction should be clear for students to always check if they are not using expired chemicals or defective apparatus. In addition, when performing experiments students have to record data accurately. For tasks involving calculations, they have to always present accurate results.

Environment and sustainability	In order to avoid the environment pollution, before, during or after experiments students avoid throwing away chemicals anywhere; special places or appropriate containers should be used.
Financial education	When performing experiments, students are encouraged to avoid wasting consumables by using the quantities that are just required. They are required to also avoid spoiling equipments and other materials...

1.2.3. Attention to special educational needs specific to each subject

In the classroom, students learn in different way depending to their learning pace, needs or any other special problem they might have. However, the teacher has the responsibility to know how to adopt his/her methodologies and approaches in order to meet the learning needs of each student in the classroom. Also teacher must understand that students with special needs need to be taught differently or need some accommodations to enhance the learning environment. This will be done depending on the subject and the nature of the lesson.

In order to create a well-rounded learning atmosphere, teacher needs to:

- Remember that students learn in different ways so they have to offer a variety of activities (e.g. role-play, music and singing, word games and quizzes, and outdoor activities).
- Maintain an organized classroom and limits distraction. This will help students with special needs to stay on track during lesson and follow instruction easily.
- Vary the pace of teaching to meet the needs of each student-teacher. Some students process information and learn more slowly than others.
- Break down instructions into smaller, manageable tasks. Students with special needs often have difficulty understanding long-winded or several instructions at once. It is better to use simple, concrete sentences in order to facilitate them understand what you are asking.
- Use clear consistent language to explain the meaning (and demonstrate or show pictures) if you introduce new words or concepts.
- Make full use of facial expressions, gestures and body language.
- Pair a student who has a disability with a friend. Let them do things together and learn from each other. Make sure the friend is not over protective and does not do everything for the student-teacher. Both students will benefit from this strategy

- Use multi-sensory strategies. As all students learn in different ways, it is important to make every lesson as multi-sensory as possible. Students with learning disabilities might have difficulty in one area, while they might excel in another. For example, use both visual and auditory cues.

Below are general strategies related to each main category of disabilities and how to deal with every situation that may arise in the classroom. However, the list is not exhaustive because each student is unique with different needs and that should be handled differently.

Strategy to help students with developmental impairment:

- Use simple words and sentences when giving instructions.
- Use real objects that the student can feel and handle, rather than just working abstractly with pen and paper.
- Break a task down into small steps or learning objectives. The student should start with an activity that s/he can do already before moving on to something that is more difficult.
- Gradually give the student less help.
- Let the student work in the same group with those without disability.
- Strategy to help students with visual impairment:
- Help students to use their other senses (hearing, touch, smell and taste) to play and carry out activities that will promote their learning and development.
- Use simple, clear and consistent language.
- Use tactile objects to help explain a concept.
- If the students have some sight, ask them what they can see. Get information from parents/caregivers on how the student manages their remaining sight at home.
- Make sure the student has a group of friends who are helpful and who allow the students to be as independent as possible.
- Plan activities so that students work in pairs or groups whenever possible.

Strategy to help students with hearing impairment:

- Strategies to help students with hearing disabilities or communication difficulties
- Always get the students attention before you begin to speak.
- Encourage the student to look at your face.
- Use gestures, body language and facial expressions.

- Use pictures and objects as much as possible.
- Ask the parents/caregivers to show you the signs they use at home for communication use the same signs yourself and encourage other students to also use them.
- Keep background noise to a minimum.

Strategies to help children with physical disabilities or mobility difficulties:

- Adapt activities so that student who use wheelchairs or other mobility aids, or other students who have difficulty moving, can participate.
- Ask parents/caregivers to assist with adapting furniture e.g. The height of a table may need to be changed to make it easier for a student to reach it or fit their legs or wheelchair under.
- Encourage peer support friends can help friends.
- Get advice from parents or a health professional about assistive devices.

1.2.4. Guidance on assessment

Each unit in the teacher's guide provides additional activities to help students achieve the key unit competence. Results from assessment inform the teacher which student needs remedial, consolidation or extension activities. These activities are designed to cater for the needs of all categories of students; slow, average and gifted students respectively.

Assessment is an integral part of teaching and learning process. The main purpose of assessment is for improvement. Assessment for learning/ **Continuous/ formative assessment** intends to improve student-teachers' learning and teacher's teaching whereas assessment of learning/summative assessment intends to improve the entire school's performance and education system in general.

Continuous/ formative assessment

It is an ongoing process that arises out of interaction during teaching and learning process. It includes lesson evaluation and end of sub unit assessment. This formative assessment plays a big role in teaching and learning process. The teacher should encourage individual, peer and group evaluation of the work done in the classroom and uses appropriate competence-based assessment approaches and methods.

In year two textbook, formative assessment principle is applied through application activities that are planned in each lesson to ensure that lesson objectives are achieved before moving on. At the end of each unit, the end unit assessment is formative when it is done to give information on the progress of students and from there decide what adjustments need to be done. Assessment standards are taken into consideration when setting tasks.

Summative assessment

The assessment done at the end of the term, end of year, is considered as summative. The teacher, school and parents are informed on the achievement of educational objectives and think of improvement strategies. There is also end of level/ cycle assessment in form of national examinations.

1.2.5 Student teachers' learning styles and strategies to conduct teaching and learning process

There are different teaching styles and techniques that should be catered for. The selection of teaching method should be done with the greatest care and some of the factors to be considered are: the uniqueness of subjects, the type of lessons, the particular learning objectives to be achieved, the allocated time to achieve the objective, instructional available materials, the physical/sitting arrangement of the classroom, individual student teachers' needs, abilities and learning styles.

There are mainly four different learning styles as explained below:

a. Active and reflective students

Active students tend to retain and understand information best by doing something active with it, discussing or applying it or explaining it to others. Reflective students prefer to think about it quietly first.

b. Sensing and intuitive students

Sensing students tend to like learning facts while intuitive students often prefer discovering possibilities and relationships. Sensors often like solving problems by well-established methods and dislike complications and surprises; intuitive students like innovation and dislike repetition.

c. Visual and verbal students

Visual students remember best what they see (pictures, diagrams, flow charts, time lines, films, demonstrations, etc.); verbal students get more out of words (written and spoken explanations).

d. Sequential and global students

Sequential students tend to gain understanding in linear steps, with each step following logically from the previous one. Global students tend to learn in large jumps, absorbing material almost randomly without seeing connections, and then suddenly "getting it."

1.2.6. Teaching methods and techniques that promote the active learning

The different student learning styles mentioned above can be catered for, if the teacher uses active learning whereby students are really engaged in the learning process.

What is Active learning?

Active learning is a pedagogical approach that engages students in doing things and thinking about the things they are doing. In active learning, students are encouraged to bring their own experience and knowledge into the learning process.

The role of the teacher in active learning

- The teacher engages students through active learning methods such as inquiry methods, group discussions, research, investigative activities and group and individual work activities.
- He/she encourages individual, peer and group evaluation of the work done in the classroom and uses appropriate competence-based assessment approaches and methods.
- He provides supervised opportunities for students to develop different competences by giving tasks which enhance critical thinking, problem solving, research, creativity and innovation, communication and cooperation.
- Teacher supports and facilitates the learning process by valuing student-teachers' contributions in the class activities.

The role of students in active learning

Students are key in the active learning process. They are not empty vessels to fill but people with ideas, capacity and skills to build on for effective learning. A learner engaged in active learning:

- Communicates and shares relevant information with other students through presentations, discussions, group work and other learner-centred activities (role play, case studies, project work, research and investigation)
- Actively participates and takes responsibility for their own learning
- Develops knowledge and skills in active ways
- Carries out research/investigation by consulting print/online documents and resourceful people, and presents their findings
- Ensures the effective contribution of each group member in assigned tasks through clear explanation and arguments, critical thinking, responsibility and confidence in public speaking
- Draws conclusions based on the findings from the learning activities.

Some active techniques that can be used in Biology

The teaching methods strongly emphasised in the competence Based Curriculum (CBC) are active methods. Below are some active techniques that apply in sciences:

A. Practical work/ experiments:

Many of the activities suggested in fundamentals of nursing curriculum as well as in the teacher's book are practical works or experiments.

Practical work is vital in learning biology; this method gives the student the opportunity to implement a series of activities and leads to the development of both cognitive and hands-on skills. The experiments and questions given should target the development of the following skills in student-teachers: observation, recording and report writing, manipulation, measuring, planning and designing.

A practical lesson/Experiment is done in three main stages:

- **Preparation of experiment:** Checking materials to ensure they are available and at good state; try the experiment before the lesson; think of safety rules and give instructions to lab technician if you have any.
- **Performance of experiment:** Sitting or standing arrangement of student-teachers; introduction of the experiment: aims and objectives; setting up the apparatus; performing the experiment; write and record the data.
- **Discussion:** Observations and interpreting data; make generalisations and assignment: writing out the experiment report and further practice and research.

In some cases, demonstration by the teacher is recommended when for example the experiment requires the use of sophisticated materials or very expensive materials or when safety is a major factor like dangerous experiments and it needs specific skills to be learnt first.

In case your school does not have enough laboratory materials and chemicals, experiments can be done in groups but make sure every student participates. You can also make arrangements with the neighbouring science school and take your students there for a number of experiments.

B. Research work

Each student or group of students is given a research topic. They have to gather information from internet, available books in the library or ask experienced people and then the results are presented in verbal or written form and discussed in class.

C. Project work

Fundamentals of nursing teachers are encouraged to sample and prepare project works and engage their students in, as many as possible. Students in groups or individually, are engaged in a self-directed work for an extended period of time to investigate and respond to a complex question, problem, or challenge. The work can be presented to classmates or other people beyond the school. Projects are based on real-world problems that capture students' interest. This technique develops higher order thinking as the students acquire and apply new knowledge in a problem-solving context.

D. Field trip

One of the main aims of teaching fundamentals of nursing in Rwanda is to apply its knowledge for development. To achieve this aim we need to show to students the relationship between classroom science lessons and applied sciences. This helps them see the link between science principles and technological applications.

To be successful, the field visit should be well prepared and well exploited after the visit:

Before the visit, the teacher and student:

- Agree on aims and objectives
- Gather relevant information prior to visit
- Brainstorm on key questions and share responsibilities
- Discuss materials needed and other logistical and administrative issues
- Discuss and agree on accepted behaviours during the visit
- Visit the area before the trip if possible to familiarise yourself with the place after the visit

When students come back from trip, the teacher should plan for follow-up. The follow-up should allow students to share experiences and relate them to the prior science knowledge. This can be done in several ways; either: Students write a report individually or in groups and give to the teacher for marking. The teacher then arranges for discussion to explain possible misconceptions and fill gaps. Or students write reports in groups and display them on the class notice board for everyone to read.

Main steps for a lesson in active learning approach

All the principles and characteristics of the active learning process highlighted above are reflected in steps of a lesson as displayed below. Generally, the lesson is divided into three main parts whereby each one is divided into smaller steps to make sure that students are involved in the learning process. Below are those main parts and their small steps:

1. Introduction

Introduction is a part where the teacher makes connection between the current and previous lesson through appropriate technique. The teacher opens short discussions to encourage students to think about the previous learning experience and connect it with the current instructional objective. The teacher reviews the prior knowledge, skills and attitudes which have a link with the new concepts to create good foundation and logical sequencings.

2. Development of the new lesson

The development of a lesson that introduces a new concept will go through the following small steps: discovery activities, presentation of student-teachers' findings, exploitation, synthesis/summary and exercises/application activities, explained below:

Discovery activity

Step 1

The teacher discusses convincingly with students to take responsibility of their learning

He/she distributes the task/activity and gives instructions related to the tasks (working in groups, pairs, or individual to instigate collaborative learning, to discover knowledge to be learned)

Step 2

The teacher let the students work collaboratively on the task.

During this period the teacher refrains to intervene directly on the knowledge

He/she then monitors how the students are progressing towards the knowledge to be learned and boost those who are still behind (but without communicating to them the knowledge).

Presentation of student-teachers' productions

- In this episode, the teacher invites representatives of groups to present the student-teachers' productions/findings.
- After three/four or an acceptable number of presentations, the teacher decides to engage the class into exploitation of the student-teachers' productions.

Exploitation of student-teachers's productions

- The teacher asks the students to evaluate the productions: which ones are correct, incomplete or false
- Then the teacher judges the logic of the student-teachers' products, corrects those which are false, completes those which are incomplete, and confirms those which correct.

Institutionalization (summary/conclusion/ and examples)

- The teacher summarises the learned knowledge and gives examples which illustrate the learned content.

Exercises/Application activities

- Exercises of applying processes and products/objects related to learned unit/sub-unit
- Exercises in real life contexts
- Teacher guides students to make the connection of what they learnt to real life situations. At this level, the role of teacher is to monitor the fixation of process and product/object being learned.

3. Assessment

In this step the teacher asks some questions to assess achievement of instructional objective. During assessment activity, students work individually on the task/activity. The teacher avoids intervening directly. In fact, results from this assessment inform the teacher on next steps for the whole class and individuals. In some cases, the teacher can end with a homework assignment.

PART II: SAMPLE LESSON PLAN

Teacher's name..... SchoolName:

Term	Date	Subject	Class	Unit N°	Lesson N°	Duration	Class size
One	.././20..	FUNDAMENTALS OF NURSING	Senior five	2	1 of 12	80 minutes	35 Students
Type of Special Educational Needs to be catered for in this lesson and number of students in each category				Three students with moderate physical impairments			
Unit title		Bandaging techniques					
Key Unit Competence:		Apply correctly the techniques of bandaging					
Title of the lesson		Introduction to bandaging techniques					
Instructional Objective		Given the case-based scenario, students should be able to exactly choose the type of bandage to be used considering the purposes and rules of bandage application.					
Plan for this Class (location: in / outside)		Inside the classroom in a U shape arrangement.					
Learning Materials (for all students)		Markers, flipcharts, bandages of different types (rollers, triangular and tubulars), adhesive tape or safety pin, tray and examination gloves.					
References		<ol style="list-style-type: none"> 1. Rwanda Education Board (2021). Advanced Level Fundamentals of Nursing syllabus (S4-S6). Kigali, Rwanda, 1st edition. 2. Senior five student book and teacher's guide of Fundamentals of Nursing 3. Brain Kart, (2018). Guidelines and types of bandage, country, edition 					

Steps and Timing	Description of teaching and learning activities		Competences and Cross-Cutting Issues to be addressed
	Teachers activities	Students activities	
Introduction 10 minutes	<ul style="list-style-type: none"> Indicate to the students the activity in the student's book Deliver the teaching resources to students as planned in the teacher's guide Through questioning techniques, ask students to say what they are seeing in the image of learning activity 2.1 Let students think individually, then share their points of view in pairs and therefore volunteers answer loudly to the asked questions 	<p>The students receive student's books, roller bandages, triangular bandages, tubular bandages, adhesive tapes or safety pins, trays, examination gloves and brainstorm on learning activity 2.1</p> <p>They guess the purposes of bandaging, the rules of bandaging and different types of bandages.</p> <p>Volunteers answers the asked questions.</p>	<p>Cooperation is improved through group work: team working spirit is developed through working together in small group discussions.</p> <p>Communication skills are developed through small group discussions.</p>

Development of the lesson:
40 minutes

- The teacher gives instructions and motivates students to brainstorm in pairs the purpose of the procedures done in learning activity 2.1. and invites 3 pairs to share their ideas to the whole class.
- The teacher consolidates the works presented and makes sure that all students are understanding the content
- The teacher asks students the rules of bandaging and encourages everyone to state the rules of bandaging that he/she knows.
- The teacher takes note on the blackboard or flipchart of the correct answers and from there adds on the

In their respective pairs, Students discuss and brainstorm on purpose of the procedures illustrated in the learning activity 2.1.
3 pairs present their work to the whole class

Critical thinking and problem solving skills are developed through analysing and solving real life health problems.

Cooperation and communication are developed during presentations and group discussions.

Inclusive education is addressed by providing the remediation activities and tasks to struggling student-teachers.

	<p>remaining rules of bandaging.</p> <ul style="list-style-type: none"> • The teacher asks students if they can describe some types of bandages that they have seen in the image illustrated. • The teacher explains deeper about the indications of each type. 		
<p>Exploitation of students' findings</p> <p>7 minutes</p>	<ul style="list-style-type: none"> • Tutor harmonizes the answers from presentation. • Ask further questions to make sure that even students with education need are involved in the learning process 	<p>Students follow attentively the comments of the teacher and asks questions if they do have them</p>	

<p>Conclusion</p> <p>20 min</p>	<p>Summary:</p> <p>Tutor guides all student-teachers to highlight the main properties of powers, their usage and to summarize the lesson of the day.</p>	<p>Students summarize the lesson guided by the teacher.</p>	<p>Communication skills is developed through small discussion on the findings and the main points of the lesson.</p>
	<p>Assessment</p> <ul style="list-style-type: none"> • The teacher helps students to form groups of 5-6 students • Each group works on the application activity 2.1 • After 10 minutes each group hangs their written work on the wall • The teacher harmonizes the findings from all groups 	<p>Students work independently on the application activity 2.1</p>	<p>Critical thinking and problem solving skills are developed through analysing and solving real life problems.</p>
<p>Teacher self-evaluation</p> <p>3 minutes</p>	<p>The lesson was conducted successfully since every learner was involved and is able to achieve the key competence of the lesson</p>		

PART III: UNIT DEVELOPMENT

1.1 Key unit competence

Perform the techniques of simple wound dressing

1.2 Prerequisites

Students will learn better to perform the techniques of simple wound dressing if they have understanding of the anatomy and physiology of integumentary system, nursing ethics and professional code of conduct. Request them to review these concepts and system.

Anatomy refers to the internal and external structures of the body and their physical relationships, whereas physiology refers to the study of the functions of those structures. The integumentary system is the largest organ of the body that forms a physical barrier between the external environment and the internal environment that it serves to protect and maintain. The integumentary system includes the epidermis, dermis, hypodermis, associated glands, hair, and nails. In addition to its barrier function, this system performs many intricate functions such as body temperature regulation, cell fluid maintenance, synthesis of Vitamin D, and detection of stimuli. Skin breakdown lead to the loss of these function described above and thus highlight the importance of wound care.

Understanding the nursing ethics and professional code of conduct will guide students in making correct decision while giving care to patients.

1.3 Cross-cutting issues to be addressed

a. Environment and sustainability

Wounds related wastes might contain potentially harmful microorganisms that can spread in the environment and infect the habitat of all populations living organisms. Consequently, some living organism might die as a consequence of such infection. Therefore, emphasize to students that such wastes should be appropriately handled and treated to protect and sustain the environment.

b. Inclusive education

To ensure that learning is inclusive, as a facilitator: Place students with visual impairment in appropriate places. Those with short-sightedness (myopia) must sit on front desks in class. If you have children with low vision, remember to print in appropriate font size (large print). Those with long sightedness must sit on back desks.

c. Gender

This course requires the participation of both girls and boys. Make sure that all students are actively involved not only boys.

1.4 Guidance on the introductory activity

Before starting the first lesson of the unit of simple wound care, ask students to attempt an introductory activity. This activity intends to:

- Attract the learner's attention and relate the unit with students' daily life.
- Assess students understanding of the concepts simple wound care.

Methodological steps to the introductory activity

As a facilitator, request students to:

- Carefully observe the figures 1.1 in the student book
- In group or in pairs, request them to answer the questions related to the figures.
- Each group records the answers. Let the students know that there are no wrong answers
- Appoint randomly any 2 groups to write their answers on the chalkboard or flipchart.
- Ask other groups members if they have something to add on what is written on the chalkboard or flipchart.

Answers of the introductory activity

Answer to question 1:

Each picture illustrated in the introductory activity show a person who has a wound.

Answer to question 2:

- **Picture A:** Shows a child who is crying due to a painful and bleed wound on his knee sustained after falling down from a stake.
- **Picture B:** Shows phases of wound healing and factors affecting wound healing including medication and nutrition.
- **Picture C:** Show a health care professional well-groomed and gloved who is caring for a simple wound on the patient arm.
- **Picture D:** shows a parson who has a bleeding wound on his thigh resulted from probably a cut with a sharp object. There is also someone gloved who seems to be observing the wound but is doing nothing to stop bleeding.

Answer to question 3:

If I were an associate nurse on the field I would first attempt to stop the patient wound from bleeding by applying a compressive dressing on the patient wound. In doing so I would ensure not to contaminate the patient's wound.

1.5 List of lessons /sub-headings

No	Lesson title	Learning objectives	Number of periods
1	Introduction to simple wound	Explain wounds Distinguish classes of wounds. Describe principles of wound care	1
2	Phases of wound Healing	Describe phases of wound healing process	1
3	Factors affecting simple wound healing	Explain factors affecting simple wound healing	1
4	Overview on simple wound care	Understand the purpose of simple wound care Differentiate aseptic dry wound dressing and wet wound dressing	1
5	Aseptic dry wound dressing technique	Perform the technique of aseptic dry wound dressing	2
6	Wet wound dressing technique	Perform the technique of wet wound dressing	2
7	Self-learning in Simulation lab	Perform the technique of dry and wet dressing for simple wound	4
8	Theoretical assessment (End unit assessment)	Demonstrate understanding of simple wound care	2
9	Practical assessment (OSCE)	Demonstrate acquisition of hand on skills to perform techniques of simple wound care	4

LESSON 1: Introduction to simple wound

This is the first lesson of the unit which should be taught in 2 periods and it should also cover the introduction of the unit.

a. Learning objectives

At the end of the lesson, students will be able to:

- Explain wounds
- Distinguish classes of wounds.
- Describe principles of wound care

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have a good understanding of anatomy and physiology of integumentary system.

d. Learning activity 1.1

Guidance

- Before introducing the lesson, you have to introduce the whole unit.
- As a facilitator, form groups of 5 students depending on their class size
- Ask students to attempt the activity.1.1
- Move around groups guiding and facilitating them
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- The learning activity 1.1, is written in students' book. However, you can use the pictures and ask more questions to the students.
- Select like 3 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability or visual impairment get what you say.

Answers to learning activity 1.1

Answer to question 1:

The comprehensive wound care management should be guided by the following points

- Correction of etiologic factors,
- Provision of systematic support for wound healing and
- Topical treatment that create and maintain an optimal healing environment.

Answer to question 2:

The types of wound and causes are interconnected to either intentional or unintentional:

- **Intentional wound** occurs as a result of therapeutic reasons. Examples are surgical incisions or venipuncture. This wound is created under the sterile conditions.
- **Unintentional wound** occurs as a result of unplanned event such as a wound caused by an accident. Examples include traumatic wounds, fall, a gunshot wound, and violence, unusual wound (snake or insect bite) or the result of an allergic reaction

Furthermore, unintentional wound may result from an illness such as vascular and or neuropathic impairment. Thus, the wound may result from either ischemia or blood stasis. Ischemia comes from reduced blood supply caused by the tightening or blockage of blood vessels, and this leads to poor circulation.

Wounds can be caused by being immobile, such wounds will be referred to bed sores or pressure sores.

The wound can be caused by friction when a body part rubs or scrapes across a rough or hard surface

Answers to self-assessment 1.1

Answer to question 1:

Unintentional wound (2) open (3) clean contaminated wound (4) acute

Answer to question 2:

- a. Principle of wound care in which she was addressing on are factors affecting wound healing such as nutrition and lifestyle
- b. Other wound care principles that should be implemented for a comprehensive and holistic wound care are: correction of etiologic factors and provision of systematic support for wound healing

Additionally, health care provider caring for individuals with wounds should recognize the need for a comprehensive and individualized plan of care designed to assess and manage risk factors and wound etiologies. Other factors to be considered in comprehensive wound management include comorbidities that can impede wound healing and increase the risk for complications, the needs of the wound's microenvironment to facilitate the healing cascade, and lifestyle choices that contribute to the wound's incidence and may prevent healing.

LESSON 2: Phases of wound healing

The second lesson of the unit has 1 period meaning that it will be taught in 40 minutes.

a. Learning objectives

At the end of this lesson students will be able to describe phases of wound healing process

b. Learning resources:

Computer, projector, illustrated pictures in the students' book and pictures for Learning activity, manila paper or /and flipchart, black board and chalks.

c. Prerequisites

Students will learn better this lesson if they have the understanding of the concepts of simple wound care, principle of simple wound care, and types of wound.

d. Learning activity 1.2

Guidance

To facilitate students to do the activity 1.2, pair students in group of 4 students.

- Ask them to attempt the learning activity 1.2, where each group will describe phases of wound healing process from the illustrate provided in the activity.
- Provide to the students the necessary materials or guide them where they can get the materials
- Move around groups guiding and facilitating them to describe phases of wound healing process.
- Remember to assist the students who are weak wherever you are needed
- Invite 2 groups to present
- Ask other students to follow carefully the presentation
- Those who are not acting should listen attentively without disturbing others
- Facilitator answer the questions which were not answered, provide the additions and conclude the presentations.

Answer to learning activity 1.2

Answer to question 1:

Wound healing is the complex process in which the skin goes through as it repairs. Destroyed or damaged tissue is replaced by new produced tissue in stepwise fashion and involves the stage of hemostasis, inflammation, proliferation, and maturation. Please refer to student book for the description of each phase.

Answer to question 2:

There are four phases of wound healing; the first one is hemostasis which aims at stopping any bleeding and the body activates blood clotting system. The second phase is inflammation where the body activates its key defense mechanism which is inflammation. The inflammation phase is the most painful. The third phase of wound healing is proliferation which involves closing of the wound. The fourth phase is maturation or remodeling; it is where the new tissue that the body built in the previous phase needs to strengthen and build flexibility. The remodeling phase is the longest and can take over a year to fully repair.

Answer to question 3:

If one phase of wound healing did not occur, wound healing would get halted by lot of complications. For example: If hemostasis which is the first phase of wound healing did not occur bleeding from the wound may continue and the activation of body repair system would not be done. If there is no recruitment of new innate immune system, the defense against attack of invading pathogens and removal of dead tissues would not happen therefore no proliferation of the skin. Additionally, wound would become chronic and take longtime and lot of resources to heal.

Answers to self-assessment 1.2

1. Hemostasis	C
2. Maturation	D
3. Inflammation	A
4. Proliferation	B

LESSON 3: Factors affecting wound healing

a. Learning objectives

Explain factors affecting simple wound healing

b. Learning resources:

Computer, projector, illustrated pictures in the students' book and pictures for Learning activity, manila paper or /and flipchart, black board and chalks.

c. Prerequisites

Students should learn better the factors affecting simple wound healing, if they have the understanding on the concept of the simple wound care and the phases of wound healing.

d. Learning activity 1.3

Guidance

To facilitate students to do the activity 1.3, pair students in group of 4 students.

- Ask them to attempt the learning activity 1.3, where each group will explain factors affecting simple wound healing from the illustrate provided in the activity.
- Move around groups guiding and facilitating them to do the activity.
- Remember to assist the students who require special attention.
- Invite randomly like 2 groups to present.
- Ask other students to follow carefully the presentation.
- Facilitator answer the questions which were not answered, provide the additions and conclude the presentations

Answers to learning activity 1.3

Answer to question 1:

- *Picture A:* Illustrate nutrition as a factor of wound healing. Poor nutrition before or during the healing process can delay healing and impair wound strength, making the wound more prone to breakdown.
- *Picture B:* Illustrate Physical activity: Exercise and other physical activity have been shown to reduce the level of inflammatory markers in the blood, thus helping to reduce the level of inflammation and promote rapid healing.
- *Picture C:* Illustrate Age as a factor of wound healing: Age-related differences in wound healing have been obviously documented. Even though the elderly can heal most wounds, they have a slower healing process, and all phases of wound healing are affected. The inflammatory response is decreased or delayed, as is the proliferative response.

- *Picture D:* Illustrates medications. It is important to note that some medication such as ferrous sulfate and vitamins may help in wound healing.

Answer to question 2:

The factors of wound healing are intrinsic and extrinsic. Intrinsic factors affecting wound healing include age, gender, psychological, physical/structure, life style, nutrition, medications, and comorbidities. Extrinsic factors include environment, clothing and footwear, wound site, temperature, nutrition, Wound care skill/technique, and infection.

For the detailed description of each factors please refer to student book.

Answers to self-assessment 1.3

The way the following intrinsic and extrinsic factors affect wound healing process:

– **Intrinsic factors:**

- Age:** as we age cell regeneration rates slowdown, which means that wounds usually take longer to heal the older we get. A wound that might take 3 weeks to heal in a youth may take 6 weeks to heal in the older individual.
- Lifestyle:** smoking, alcohol and drug use, although an extrinsic factor, can impact intrinsically on the individual, which could delay healing rates.
- Medications,** common medications that impact on wound healing processes and rates are steroids, anti-inflammatory and cytotoxic drugs.

– **Extrinsic factors:**

- Nutrition:** it is vital that the patient with a wound takes in additional calories in order to increase healing rates, particularly with regards to increased proteins.
- Wound care skill/technique:** one of the most common reasons for delayed wound healing is the wound care technique of health professionals. This may include the use of inappropriate dressings, causing trauma on removal of the dressing (causing the wound to revert back to the beginning of the healing process); leaving a dressing in situ for too long, causing saturation and subsequent maceration/excoriation of the wound and peri-wound tissues.
- Wound site:** wounds sites over joints (e.g. elbows, knees) will usually take slightly longer to heal than wounds over non-mobile areas

LESSON 4: Overview on simple wound care

a. Learning objectives

At the end of this lessons, students will be able to:

- Understand the purpose of simple wound care
- Explain the purpose of simple wound care
- Differentiate aseptic dry wound dressing and wet wound dressing

b. Teaching resources

Computer, projector, students' book, Manila paper or /and flipchart, black board and chalk

c. Prerequisites

To better understanding the overview of simple wound care, students should have the understanding of the principals of simple wound care, factors affecting wound healing and phases of wound healing.

d. Learning activities 1.4

Guidance

- Ask the students to attempt the learning activity 1.4 in student book. Inform them to do it in their groups.
- Move around facilitating each group
- Appoint any two group to present
- Ask the remaining to add if they have additions

Answers to learning activity 1.4

Answer to question 1:

A wound dressing is anything that is used in direct contact with a wound to cover it, to keep the wound clean, to destroy pathogenic germs in the wound, protecting the wound, to help it heal and prevent further issues or complications.

Answer to question 2:

The type of wound dressing that should be performed for patient H. is aseptic dry dressing.

Answers to self-assessment 1.4

1. The type of wound dressing indicated for Mr. J. is aseptic dry wound dressing which is the most common type of dressing for simple wound, the wound will be cleaned by sterile gauze and normal saline 0.9% and covered with sterile gauze.

2. The difference between aseptic dry wound dressing and aseptic wet wound dressing is that for aseptic wet wound dressing, the wound is covered by a moistened sterile gauze in order to maintain the open wound moist and therefore promote wound healing, while for the aseptic dry wound dressing the wound is covered by a sterile dry gauze.
3. The purpose of wound dressing for Mr. J. is to keep the wound clean, to prevent infection, to protect new epithelial tissues and to prevent the wound from injury.

LESSON 5: Aseptic dry wound dressing techniques

a. Learning objective:

At the end of this lesson, students will be able to perform aseptic dry wound dressing

b. Learning resources

Books, videos, images illustrated in student book, mannequins

c. Pre requisite

In this lesson you are going to learn about aseptic dry wound dressing and it would be better for the student to have knowledge about different types of wounds, factors affecting wound healing and principles for caring simple wounds.

d. Learning activity 1.5

Guidance:

The facilitator will download the accurate videos of technique online or give students the link to help them watching how to perform aseptic dry wound dressing.

- Ask the students to form the groups of 5 students.
- Ask the students to attempt the learning activity 1.5 in student's book.
- Deliver the teaching resources (videos) to students.
- Move around groups guiding and facilitating them to understand clearly the activity.
- Select like 1 group to come in front of their colleagues to share their answers to the whole class by requesting the group representative to write them on the chalkboard or flipchart.
- Ask the other students to follow carefully the presentation done by their colleagues.
- Note on chalkboard/manila or flip chart what was answered well and what is to be corrected.
- Welcoming the other groups for completing the information not given by previous group

- Make additional information
- Guide students to make notes in their notebooks referring to learner's book.

Answers to learning activity 1.5

Answer to question 1:

During aseptic dry dressing, the health care provider has to prevent irrigating wound bed and has to cover the wound using dry gauze after wound cleaning.

Answer to question 2:

The nurse should use sterile materials and respect the principles of asepsis.

Answer to question 3:

The technique of dry wound dressing technique is done in a stepwise approach following the checklist described below.

Answers to self-assessment 1.5

It is also done following the checklist below.

Aseptic dry wound dressing is performed stepwise as in checklist below:

TECHNIQUE: ASEPTIC DRY WOUND DRESSING
PREPARATION
STUDENT/NURSE PREPARATION
Should appear professional (in full and clean uniform) with student Card
Hand washing
PATIENT PREPARATION
Identification of the patient
Location, area, state of the wound.
Type of dressing to carry out.
Type of product to use.
MATERIALS
Cleaned and disinfected trolley.
On the upper shelf of the trolley.
Sterile Individual Set with the following basic material:
* Forceps: 1 anatomic and 1 Kocher.
* Compresses.
* Pads.

* Sterile piece of cloth

* Cup

Serving forceps

Specific and Additional Material: in drums, boxes, individual packing.

Prescribed disinfectant (well closed flask).

Adhesive plaster, Crêpe bandage.

Kidney basin with a pair of scissors for cutting the adhesive plaster..

On the lower shelf of the trolley.

On the left side

Kidney basin.

Protective gloves.

Impermeable protection (for the bed linen).

On the right side

Kidney basin for wastages.

Container or Recipient for used material.

Dust bin.

IMPLEMENTATION

Assess the patient for possible need for non-pharmacologic pain-reducing interventions or analgesic medication before wound care dressing change. Administer appropriate prescribed analgesic (if any). Allow enough time for analgesic to achieve its effectiveness

Position the materials on the appropriate side of the patient.

Position the patient in a suitable position.

Place the impermeable protection.

Examine the wound site.

Disinfect the hands.

Open the sterile piece of cloth: fold the upper edge towards the back side, the border towards the external side of the trolley. NB: Do not further expose the content of the sterile cloth: maintain its sterility.

Take a serving forceps.

Arrange the material.

Add compresses if necessary.

Add pads if necessary.

Pour the disinfectant in the sterile cup

Unfasten the external fastening of the dressing.

Wear the protective gloves.

Remove the old dressing while gripping it with 2 fingers.
Check the dressing and throw it in the kidney basin.
Observe the wound and its surrounding area or tissue.
Remove the protective gloves and put them in the kidney basin or dustbin
In case you use a forceps to remove the dressing, throw the forceps in the container for used materials
Disinfect the hands.
Take some forceps for working.
Place the sterile cloth on the impermeable protection
Open the sterile cleaning solution. Depending on the amount of cleaning needed, the solution might be poured directly over gauze sponges over a container for small cleaning jobs, or into a basin for more complex or larger cleaning
Clean the wound from top to bottom and from the center to the outside. Following this pattern, use new gauze for each wipe, placing the used gauze in the waste receptacle. Alternately, spray the wound from top to bottom with a commercially prepared wound cleanser
Clean the wound using many pads if necessary.
Clean around the wound.
Once the wound is cleaned, dry the area using a gauze sponge in the same manner. Apply ointment or perform other treatments, as ordered
Recover the wound with sterile compresses.
Fix the dressing with adhesive plaster or a bandage.

LESSON 6: Wet wound dressing technique

This lesson will be taught in 2 periods

a. Learning objectives

At the end of this lesson, students will be able to perform the technique of wet wound dressing

b. Learning resources

Books, videos like this one on selecting a wound dressing available at (<https://nursing.com/lesson/skills-05-03-wound-care-selecting-a-dressing/>), images illustrated in student book.

c. Introduction

In this lesson you are going to learn about wet wound dressing technique and it should be better if students have previously learnt the technique of aseptic dry wound dressing.

d. Learning activity 1.6

Guidance:

- Indicate the page in the student's book where to find the activity 1.6 to students.
- Deliver the teaching resources to students as planned in the teacher guide.
- Move around in class and observe if they are on the right page looking at the correct image in student's book.
- Deliver the teaching resources (videos if any) in simulation lab to students.
- Deliver the necessary materials to students to practice technique including appropriate mannequin.
- Invite students to practice the technique on mannequin after observing the image of technique in student's book or simulation lab video if any.
- Allow students to practice technique on mannequin observing them carefully.
- The students who are not acting may have to observe carefully without disturbing and should applaud the actors after.
- Note on chalkboard/manila or flip chart what was done well and what is to be corrected.
- Remember to assist those who are not performing technique correctly showing to them the steps to follow.
- Guide students to make notes in their notebooks referring to learner's book

Answers to learning activity 1.6

1. The technique of wound dressing which is mostly indicated for the illustrated image is wet wound dressing technique.
2. The rationale of performing the wet wound dressing technique is to maintain a moisturized environment and therefore promote wound healing.
3. The technique of wet wound dressing is performed in a stepwise approach described in the checklist below.

Answers to self-assessment 1.6

1. The type of wound dressing indicated is wet wound dressing
2. The wet wound dressing technique is done in a stepwise order as described in the checklist below.

TECHNIQUE TO BE CARRIED OUT: WET WOUND DRESSING

PREPARATION

STUDENT/NURSE PREPARATION

Should appear professional (in full and clean uniform) with ID Card

Hand washing

PATIENT PREPARATION

Identification of the patient

Self-presentation to the patient

Physical and psychological patient preparation

Assess levels of comprehension and collaboration of the patient

Position the patient in a comfortable position

Location, area, state of the wound.

Type of dressing to carry out.

Type of product to use.

EQUIPMENTS

Cleaned and disinfected trolley.

On the upper shelf of the trolley.

Sterile dressing Set with the following basic material:

* Forceps: 1 anatomic and 1 Kocher.

* Compresses.

* Pads.

* Sterile piece of cloth

* Cup or kidney dish

Serving forceps

Prescribed sterile normal saline

Adhesive plaster, or bandage

Kidney basin with a pair of scissors for cutting the adhesive plaster.

Paste or cream to protect the skin

Specific and Additional Material: in drums, boxes, individual packings.

* 1 anatomic forceps.

* 2 Kocher's forceps.

* Material for irrigation, if necessary.

* Absorbent dressing.

On the lower shelf of the trolley.

On the left side

Kidney basin.

Protective gloves.

Impermeable protection (for the bed linen).

Possible mask, depending on type and importance of the infection.

On the right side

Kidney basin for wastages.

Container or Recipient for used material.

Dust bin.

IMPLEMENTATION

Assess the patient for possible need for no pharmacologic pain-reducing interventions or analgesic medication before wound care dressing change. Administer appropriate prescribed analgesic (if any). Allow enough time for analgesic to achieve its effectiveness

Place a waste receptacle or bag at a convenient location for use during the procedure

Position the materials on the appropriate side of the patient.

Position the patient in a suitable position.

Place the impermeable protection.

Find out the site of the wound.

Disinfect the hands.

Open the sterile piece of cloth: fold the upper edge towards the back side, the border towards the external side of the trolley. NB: Do not further expose the contents of the sterile cloth: keep maintaining its sterility.

Take a serving forceps.

Arrange the material (in case of individual set).

Add compresses if necessary, absorbent dressing.

Add pads if necessary.

Add specific / additional material: anatomic and Kocher's pliers, irrigation material (if necessary).

Pour the disinfectant in the sterile cup

Unfasten the external fastening of the dressing.

Wear the protective gloves.

Remove the recovering dressing while gripping it with 2 fingers (protected by the gloves).

Check the dressing and throw it in the kidney basin.
Observe the wound aspect and its surround.
Remove the protective gloves and eliminate them in the kidney basin.
In case you use a forceps to remove the dressing, throw the forceps in the container for used materials
Redisinfect the hands.
Take a working forceps.
Place the sterile cloth on the impermeable protection
Impregnate a disinfecting pad.
Clean the wound. Clean the wound from top to bottom and from the center to the outside. Following this pattern, use new gauze for each wipe, placing the used gauze in the waste receptacle. Alternately, spray the wound from top to bottom with a commercially prepared wound cleanser
Dry /Rinse out the wound, only in case of using different products (for the cleaning and wet dressing).
Put cutaneous protector all around the wound and on surface of 3 cm (oxide of zinc- preferably-, vaseline, etc.) so this can be a thick layer.
Impregnate a compress in accordance with the prescription.
Express the liquid surplus and leave the compress "crumpled".
Put only the wet dressing on the wound, without exceeding the margin.
Recover the wound with sterile compresses: Absorbent dressing.
Fix the dressing with adhesive plaster or a bandage.
NB: if the patient has a lot of wounds, start by the cleanest wound.

LESSON 7: Self-learning in simulation lab

This lesson is designed for student self-learning in the simulation laboratory.

a. Learning objective.

At the end of this session, students should be able to perform the technique of dry and wet dressing for simple wound

b. Learning resources

Student book, checklist and videos.

c. Pre requisite

In this lesson you are going to perform aseptic dry wound dressing and aseptic wet wound dressing. it would be better for a learner to have knowledge about different

types of wounds, wound healing process, factors affecting wound healing and principles for caring simple wounds.

d. Activity

Guidance:

- Prepare stations for aseptic dry wound dressing and aseptic wet wound dressing in the simulation laboratory.
- Avail all equipment in each station.
- Avail checklists in each station.
- Make groups of four students.
- Inform them to go in the skills laboratory and perform both dry and wet aseptic wound dressing as they learnt in classroom.
- As a teacher be around observing students' procedure and responding to questions if any.

Skills lab

The teacher will need to use the simulation lab during this unit delivery. She/he will also encourage students to do self-practice until they master aseptic dry wound dressing and aseptic wet dressing techniques.

The demonstration of procedures will be done using available means; either, videos, images, simulated patients, models and make sure that the materials used will help students to have an idea of the real situation prior to going for clinical placement.

At the end of the unit, students will need to be evaluated practically whereby the teacher can decide on the appropriate way to be adopted.

Evaluation can be done by one teacher to one student, and the learner performs the required technique for evaluation, or a team of facilitators evaluate students via OSCE (Objective, Structured, Clinical, and Evaluation) whereby all students perform the same techniques and are evaluated in similar conditions using the same marking guide.

Practical assessment (OSCE)

This session is reserved for objective structured exam (OSCE) and it has 4 periods meaning that it will be completed in 160 minutes.

Guidance:

- Arrange 2 stations in the skills lab. Station 1 will be for aseptic dry wound dressing; station 2 will be for aseptic wet wound dressing technique.
- Request 2 facilitators (teachers) to help you out in this activity.
- Arrange check lists for each technique and dispose them in their respective stations.

- Each teacher will be in one station, using designed checklist to assign marks to each student rotating in that station.
- Each student should rotate in each station to be assessed if he/she has acquired skills of aseptic dry or wet wound dressing.
- Compile marks for each station.
- Student who failed to pass the OSCE guide them to do the remedial activities

A simple wound is a break in the continuity of the skin limited in depth at the sub-cutaneous fatty tissue that does not affect the underlying structures like muscle, bone, joints, major arteries, nerves and tendons.

1.6. Summary of unit

To conclude, it should be noted that when a wound is caused by a planned procedure like a surgical operation, it is called intentional wound and when it is caused by unplanned procedure it is called unintentional wound. Considering the skin integrity, the wound can be closed, open, abrasion, laceration, puncture, burn, or avulsion. By the degree of contamination, the wound can be Clean, Clean contaminated wounds in which wounds show no evidence of infection. Contaminated wounds show the evidence of infection. Lastly dirty or infected wounds: containing dead tissue and wounds with evidence of a clinical infection, such as purulent drainage.

Considering the onset of occurrence, an acute wound is defined as a recent wound that has yet to progress through the sequential stages of wound healing; while chronic wounds, fail to proceed through the normal phases of wound healing in an orderly and timely manner.

In managing simple wound there are some principles where the Health care provider caring for individuals with wounds should recognize the need for a comprehensive and individualized plan of care designed to assess and manage risk factors and wound etiologies. Other factors to be considered in comprehensive wound management include comorbidities that can impede wound healing and increase the risk for complications, the needs of the wound's microenvironment to facilitate the healing cascade, and lifestyle choices that contribute to the wound's incidence and may prevent healing. Wound healing is the complex process in which the skin goes through as it repairs damage from wounds. Destroyed or damaged tissue is replaced by new produced tissue in stepwise fashion and involves the stage of hemostasis, inflammation, proliferation, and maturation.

The wound healing is affected positively or negatively by different factors which can be internal to individual (intrinsic factors) and external to the individual which are extrinsic factors.

Wound dressing procedure can be performed in two ways depend on status of the wound. Firstly, clean simple wound is dressed by following the aseptic dry wound dressing guidelines. The aseptic dry wound dressing is the most common type of

dressings for simple wounds and those wounds heal by primary intention. The Sterile wet wound dressing: This type of dressing is used to keep the wound moist and to remove drainage and dead tissue from wounds. Deep wounds with undermining and tunneling need to be packed loosely. Without packing, the space may close off to form a pocket and not heal.

1.7. Answers to end unit assessment

1. b
2. c
3. c

True or false questions

- i. True
- ii. False
- iii. False

Short answer questions

1. The Principles of performing wound dressing include:
 - Identify etiologic factors,
 - Provision of systematic support for wound healing
 - Topical treatment that create and maintain an optimal healing environment.
2. Comorbidities common medical conditions that affect wound healing rates are:
 - i. Diabetes, peripheral artery disease and other conditions that affect the blood circulation such as heart disease and hypertension means a reduced blood supply reaches the wound bed.
 - ii. An inefficient cardiopulmonary circulation due to heart or lung disease means that the wound will receive a reduced supply of essential oxygen and nutrients that will reduce healing rates.
 - iii. Inflammatory diseases, such as rheumatoid arthritis and ulcerative colitis; these conditions affect the inflammatory phase of a wound healing if the condition is in 'flare-up', which can cause a prolonged inflammatory phase; alternatively, if the condition is in remission the patient is usually taking prescribed steroids, which also delay the healing process by delaying or stopping the inflammatory phase. Patients on steroids who are due to have surgery are often required to stop steroids for a short time before and after surgery.
 - iv. Cancer: Reduces the body's immune system and ability to prevent infection.
 - v. Major or multi-organ failure: Renal failure affects many body functions.

Answer to case scenario

1. Dressings are applied in order to protect the wound from mechanical injury, to protect the wound from microbial contamination, to provide or maintain a moist environment in the wound, to provide thermal insulation, to absorb drainages and / or debride a wound.
2. Precautions to implement for preventing infection to Mr. T during wound dressing are: Routine environmental cleaning, hand hygiene before and after the procedure, wear gloves during wound dressing and change them wherever possible, use personal protective equipment appropriately, use the appropriate dressing technique with full aseptic technique, clean from the wound in an outward direction, if a wound is clean, avoid to traumatize it, to retain wound moisture, avoid drying a wound after cleaning it.
3. The role of diet is to increased energy demand during the wound healing process and to strengthen the immunity, malnutrition is related to decreased wound tensile strength and increased infection rates

Most preferred nutrient in promoting wound healing are the food containing protein.

Additionally, fruits vegetables rich in vitamin C

4. Mr. T's wound is in hemostasis phase of wound healing

1.8. Additional information

When you want to dress the wound you have to start by assessing the wound following

Elements:

- Skin loss on all of the digits extending proximally
- Clinical signs consistent with local infection
- Lack of uniformity of moisture provision
- Need to document the dimensions of the wound

General rules of dressing care

- Not tight dressing compromise blood supply
- Tight dressing only to control bleeding temporary
- Pressure should be equal distributed
- Never allow tight banding around limbs or fingers
- While changing do not damage tissues of healing wound

Aseptic Dry Wound Dressing

It is a dressing technique in which after cleaning, the wound is covered with dry sterile compresses (gauzes). This kind of dressing is appropriate for surgical wounds that heal by primary intention.

The Sterile Wet Wound Dressing

In contrast to wounds that heal by primary intention, when the health care provider dresses a wound and heal to secondary intention, the dressing material becomes a means for providing moisture to the wound, or assisting in debridement. The purpose of this type of dressing is to provide moisture to the wound, yet to allow wound drainage to be wicked into the gauze pad.

Advanced dressings are ideal for wound moisture maintenance. The gauze is saturated with the solution (usually normal saline), wrung out, unfolded, and lightly packed into the wound and then be covered with dry gauzes.

1.9. Additional activities

1.9.1. Remedial activities

Choose the correct answer

1. The phase two of wound healing process is described as following:
 - a. The cells that had been used to repair the wound but which are no longer needed are removed by apoptosis, or programmed cell death.
 - b. Lymphocytes initiate the inflammatory response and this causes increasing capillary permeability.
 - c. Blood platelets form a clot, and fibrin in the clot binds the wound edges together. This step can last up 2 days depending on the part of the skin which is affected.

Answer: B

2. The extrinsic factors of wound healing include the following EXCEPT:
 - a. Age, medication, co morbidities
 - b. Wound site, temperature, Nutrition
 - c. Wound care skill, infection, clothing and footwear

Answer: A

3. The aseptic wet wound dressing technique is indicated in case of **following conditions:**
- To promote wound scar formation
 - To reduce pressure in wound
 - To remove dead tissues in wound

Answer: C

4. The classification of wounds per etiology involves bellow two classes of wounds:
- Acute wounds and chronic wounds
 - Intentional and unintentional wound
 - Clean wounds and clean contaminated wounds

Answer: B

5. **Nutrition support to enhance wound healing involves mostly the following elements:**
- Increased intake in calories
 - Increased intake in carbohydrates
 - Increased intake in protein

Answer: C

1.9.2. Consolidation activities

1. If the statement is correct use True, if not correct use False
- The wound should be cleaned and covered with unsterile gauzes
 - In order to promote wound healing, the wound should be cleaned with alcohol
 - Signs of an infected wound include swelling, redness, pus, and fever
 - A cut wound generally heals most quickly when exposed to air
 - Wound healing is the process by which the skin repairs itself after damage
 - Healing by primary intention occur in wounds with dermal edges that are close together
 - Increasing age is among extrinsic factors affecting wound healing
 - Wound contamination decreases the risk of infection

Answers to True and false questions

- =False

- b. =False
- c. =True
- d. =False
- e. =True
- f. =True
- g. =False
- h. =False

2. Short answers questions:

- a. Define the concept of wound
- b. Give two examples of intentional wounds and two examples of unintentional wounds
- c. Enumerate the phases of wound healing
- d. Differentiate aseptic dry and aseptic wet wound dressings
- e. Justify why wound care should be aseptic technique

Answers to short answers questions:

- a. The wound is the breaking of the skin, underlying tissues or an organ (break of skin integrity).
- b. Two examples of intentional wounds are surgical incision and vein puncture. Two examples of unintentional wounds are traumatic wound and gunshot wound.
- c. The phases of wound healing are:
 - Hemostasis phase
 - Inflammatory phase
 - Proliferation phase
 - Remodeling phase
- d. The aseptic dry wound dressing is done using dry gauzes without products and held in place using a tap or a bandage while for aseptic wet wound dressing the gauze or other dressing materials is moistened with saline to keep the surface of open wound moist.
- e. When applying or changing dressings, an aseptic technique is used in order to avoid introducing infections into a wound. Even if a wound is already infected, an aseptic technique should be used as it is important that no further infection is introduced.

1.9.3. Extended activities

- 1. A wound is
 - a. An opening of the body
 - b. An injury
 - c. A breaking of the skin

Answer: C

2. Match the item in the column A (types of wounds) with the related item in column B(Cause)

COLUMN A	COLUMN B
1. Intentional wound	a. Lacerations
2. Open wounds	b. A wound showing signs of inflammation
3. Chronic wound	c. Surgical incision
4. Contaminated wound	d. Diabetic ulcer
	e. Remodeling phase

Answer to Matching question

- 1 - c
- 2 - a
- 3 - d
- 4 - b

3. While preparing the simple wound dressing, you asked your colleague to bring to you a solution for the procedure. He gives you polyvidone, Biotol hand sanitizer, alcohol and saline solution 0.9%. What will be your choice?

Answer: Biotol hand sanitizer alcohol and saline solution 0.9%.

4. Explain why normal saline is the most preferably prescribed solution for wound dressing?

Answer:

Normal saline is the most preferably prescribed solution for wound dressing because it is preferred cleansing solution and is a nontoxic, isotonic does not interfere with the normal healing process, induce tissue damage, cause allergies, or alter the normal bacterial flora of the skin.

5. Discuss how age as an intrinsic factor can affect wound healing.

Answer:

Age affect the process of wound healing in that older adults are more likely to have chronic wounds than younger people and older bodies need time to repair. As a result of aging, older patients may have inadequate nutritional intake, altered hormonal responses, poor hydration, and compromised immune, circulatory, and respiratory systems, any of which can increase the risk of skin breakdown and delay wound healing.

2.1 Key unit competence

Apply correctly the techniques of bandaging

2.2. Prerequisites

Students will learn better the bandaging techniques, if they have understanding on:

Human anatomy and physiology, nurses code of conduct, moving and positioning patients, dislocation and fracture, pathological variations of vital signs.

2.3. Cross-cutting issues

a. Inclusive education

All students will be involved in all activities without any bias. Students with physical disability participate actively in all class activities and are allowed to lead the team.

b. Gender

Both girls and boys will be involved in all activities; there is no activity reserved for boys only or girls only. The teacher will ensure equal participation of both girls and boys during learning activities as well as cleaning, rearranging and tidying up after performance of different procedures.

c. Peace and Values Education

During group activities, discussions, brainstorming, and self-practice, the teacher will encourage students to help each other and respect opinions of colleagues, working in harmony and avoid conflicts.

2.4. Guidance on the introductory activity 2

All answers are acceptable. Motivate the students to state what they think about the asked questions and guide their reflection.

Answers of the introductory activity 2

Some possible answers:

1. The image A shows different types bandages and pins.
2. The technique being performed on image B is bandaging.
3. The technique performed will help the casualty for medical care, for first aid, for surgical purpose, for wound dressing, for bandaging, for immobilization of fracture...

2.5. List of lessons

No	Lesson title	Learning objectives	Number of periods
1	Introduction to bandaging techniques		2
	Purpose of bandaging	Explain the purposes of bandaging	
	Rules of applying bandages	Recall rules of applying bandages	
	Types and size of bandages	Describe the types of bandages	
2	Techniques of bandaging- Spiral bandage	Perform spiral bandage technique	2
3	Spica bandage	Perform spica bandage technique	2
4	Earlobe bandage	Perform earlobe bandage technique	2
5	Cranial bandage	Perform cranial bandage technique	2
6	Monocular bandage	Perform monocular bandage technique	2
7	Binocular bandage	Perform binocular bandage technique	2
8	Hand gloved bandage	Perform hand gloved bandage	2
9	Triangle Bandage	Perform triangular bandage	2
10	Stump bandage	Perform stump bandage	2
11	Self-learning in Simulation lab	Perform different bandaging techniques	4
12	End unit assessment	All lessons	2
	TOTAL		26

The unit of bandaging techniques will be delivered in eleven lessons and one lesson will be for end unit assessment. The majority of lessons will be conducted in the simulation lab.

LESSON 1: Introduction to bandaging technique

This lesson will be taught in 2 periods

a. Learning objectives

At the end of this lesson, students will be able to:

- Explain the purposes of bandaging
- Recall rules of applying bandages
- Describe the types of bandages

b. Teaching resources

Books, videos, images illustrated in student's book

c. Introduction

In this lesson, student will learn about bandages and their different types, purpose of bandaging as well as rules of applying bandages.

d. Learning activity 2.1.

Guidance

- Pair students in groups of two and request them to do the activity 2.1
- Indicate the location of activity 2.1 to students in the student's book.
- Deliver the teaching resources to students as planned in teachers' guide.
- Move around students observing if they are reading the correct page and what they are doing.
- Invite some students to present their findings in front of their colleagues.
- Ask the students to follow carefully the presentation
- The students who are not acting may have to listen attentively without disturbing and should applaud the actors after.
- Note on chalkboard/manila or flip chart the students' ideas.
- Tick the correct findings and correct those ones which are incomplete.
- Remember to assist those who are weak but without giving them the responses.
- Students may have few things that are not clear, guide them in a clear way.

Guide students to make notes in their notebooks referring to learner's

Answers to learning activity 2.1

Question 1:

The images of learning activity 2.1 are showing different types of bandages.

Question 2:

The procedure done as illustrated on image has a purpose of immobilization, supporting and covering

Question 3:

Different body parts are bandaged (Foot, upper limb and hand), and the types of bandages are different (Some are long, others are large cloth, and others are like a sock)

Question 4:

The types of bandages illustrated on image are roller, triangular and tubular

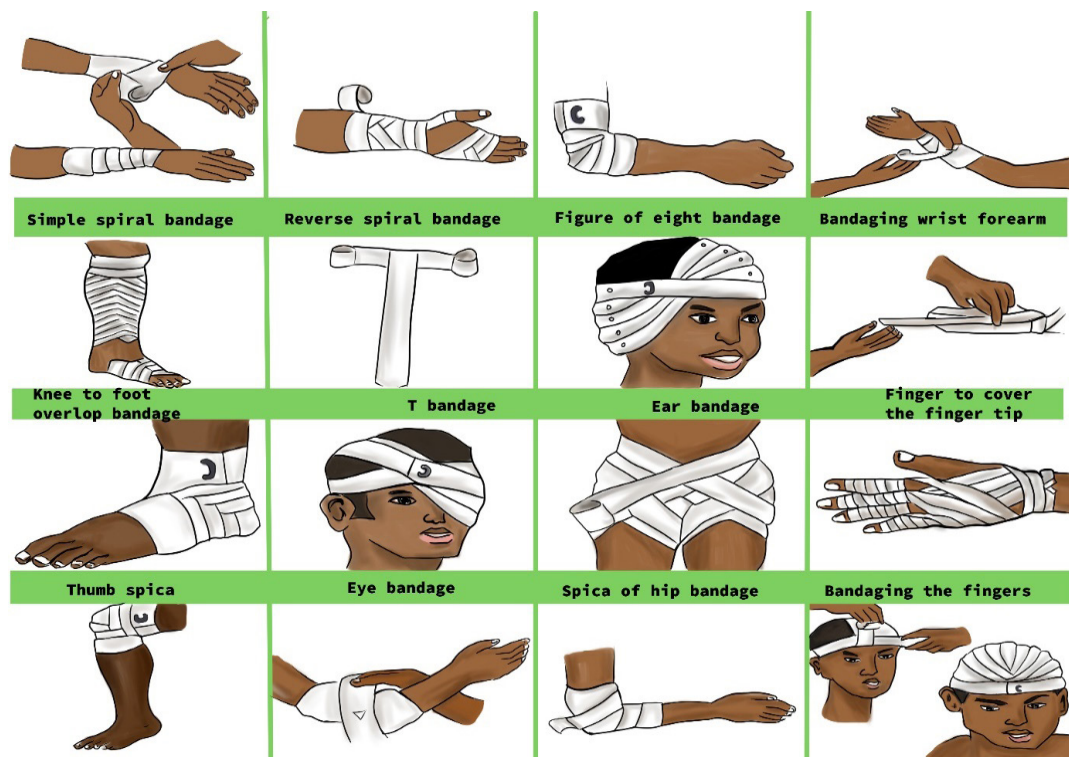
Question 5:

The bandages are neither too tight nor too loose

Answer to self-assessment 2.1

1. The best type of bandage you can use to support the injured upper limb of child X. is a triangular bandage
2. The reason to choose a triangular bandage is because it is a valuable emergency bandaging since it is quickly and easily applied, and stays on well.

LESSON 2: Techniques of bandaging: spiral bandage



Use this image to introduce the first lesson bandaging techniques. It illustrates different types of bandaging techniques which are commonly applied.

a. Learning objective

At the end of this lesson, students will be able to perform spiral bandage technique

b. Learning resources

Books, videos, images illustrated in student book, bandage of appropriate size, adhesive tape or safety pin, pair of scissors, tray.

c. Introduction

In this lesson students will learn about spiral bandage technique

d. Learning activities 2.2

Guidance

- Pair students in groups of two and request them to do the activity 2.2
- Indicate the location of activity 2.2 to students in the student's book.
- Deliver the teaching resources to students as planned in teachers' guide.
- Move around students observing if they are reading the correct page and what they are doing.

- Invite some students to present their findings in front of their colleagues.
- Ask the students to follow carefully the presentation
- The students who are not acting may have to listen attentively without disturbing and should applaud the actors after.
- Note on chalkboard/manila or flip chart the students' ideas.
- Tick the correct findings and correct those ones which are incomplete.
- Remember to assist those who are weak but without giving them the responses.
- Students may have few things that are not clear, guide them in a clear way.
Guide students to make notes in their notebooks referring to learner's book

Answer to learning activity 2.2

Answer for question 1.

According to the observation on image the body parts that can be bandaged as illustrated on images are arms, legs, head, eyes, ears, foot, hands, fingers, knee, elbow, and hip.

Answer for question 2.

The steps followed to make bandaging according to the illustrated image are: Starting step with two circles, proceeding step continuous rolling in different ways the following step is ending with two circles and the last step is fixing the bandage with a safety pin or adhesive tape or by tying a knot.

Answer for question 3.

The differences in bandaging techniques observed are that some are spiral, others are spica and others are in figure of 8.

Answer to learning activity 2.2. and self-assessment 2.2

The spiral bandage technique is done in a stepwise approach illustrated in the checklist below.

Checklist of spiral bandaging

TECHNIQUE: SPIRAL BANDAGE

PREPARATION

STUDENT/NURSE PREPARATION

Should appear professional (in full and clean uniform) with student Card

Hand washing

PATIENT PREPARATION

Identification of the patient

Identify the area for bandaging.

Check if the type of bandage is appropriate.

EQUIPMENTS

A clean tray

2 or many bandages of appropriate size.

Gloves if necessary

Adhesive plaster or safety pin.

Scissors.

IMPLEMENTATION

Set up material in front of the patient and on the side of the dominant hand of the nurse.

Be attentive on the nurse and Patient ergonometry.

Hold the roll in the dominant hand, and the beginning of the bandage in the other hand.

Face the patient.

Make 2 circles, the 1st slightly at an oblique angle, then fold up the formed point and maintain it by the 2nd circle.

Continue wrapping overlapping turns by 1/3 width of bandage roll.

End by two wraps

Secure bandages with adhesive plaster or a safety pin.

LESSON 3: Spica bandage

a. Learning objective

At the end of this lesson, students will be able to: Perform spica bandage technique

b. Learning resources

Books, videos, images illustrated in student book, mannequin, bandage of appropriate size, adhesive tape or safety pin, pair of scissors, tray.

c. Introduction

In this lesson you are going to learn about spica bandage technique

d. Learning activity 2.3

Guidance

Request students to attempt the learning activity 2.3 in the student book.

- Indicate the location of activity 2.3 to students in the student's book.
- Move around students observing if they are observing the correct image in student's book.
- Deliver the teaching resources (videos if any) in simulation lab to students.
- Deliver the necessary materials to students to practice technique including appropriate mannequin.
- Invite students to practice the technique on mannequin after observing the image of technique in student's book or simulation lab video if any.
- Allow students to practice technique on mannequin observing them carefully.
- Ask the other students to follow carefully the practice done by their colleagues.
- The students who are not acting may have to observe carefully without disturbing and should applaud the actors after.
- Note on chalkboard/manila or flip chart what was done well and what is to be corrected.
- Remember to assist those who are not performing technique correctly showing to them the steps to follow.
- Guide students to make notes in their notebooks referring to learner's book.

Answer to learning activity 2.3. and self-assessment 2.3

The spica bandage technique is done in a stepwise approach illustrated in the checklist below.

Checklist of Spica bandaging

TECHNIQUE: SPICA BANDAGE
PREPARATION
STUDENT/NURSE PREPARATION
Should appear professional (in full and clean uniform) with student Card
Hand washing
PATIENT PREPARATION
Identification of the patient
Identify the area for bandaging.
Check if the type of bandage is appropriate.

EQUIPMENTS

A clean tray

2 or many bandages of appropriate size.

Gloves if necessary

Adhesive plaster or safety pin.

Scissors.

Hold the roll in the dominant hand, and the beginning of the bandage in the other hand and face the patient.

Make 2 circles, the 1st slightly at an oblique angle, then fold up the formed point and maintain it by the 2nd circle.

Wrap progressively by crossing the bandage towards the top, in a figure 8 fashions.

Make sure that the crosses are well aligned one above the other.

End by 2 wraps.

Secure bandages with adhesive plaster or a safety pin.

LESSON 4: Earlobe bandage

a. Learning objective:

At the end of this lesson, students will be able to:

Perform bandage earlobe technique

b. Learning resources

Books, videos, images illustrated in student book, mannequin, bandage of appropriate size, adhesive tape or safety pin, pair of scissors, tray.

c. Introduction

In this lesson you are going to learn about earlobe bandage technique

d. Learning activity 2.4

Guidance

Request students to attempts the learning activity 2.4 in the student book.

- Indicate the location of activity 2.4 to students in the student's book.
- Move around students observing if they are reading the correct page and what they are doing.
- Deliver the teaching resources / mannequin in simulation lab to students
- Deliver the necessary materials to students to practice technique themselves
- Invite some students to practice the technique themselves after observing the image of technique in student's book.
- Ask the other students to follow carefully the practice done by their colleagues

- The students who are not acting may have to observe carefully without disturbing and should applaud the actors after.
- Note on chalkboard/manila or flip chart what was done well and what is to be corrected.
- Remember to assist those who are not performing technique correctly showing to them the steps to follow.
- Guide students to make notes in their notebooks referring to learner's book

Answer to learning activity 2.4. and self-assessment 2.4

The earlobe bandage technique is done in a stepwise approach illustrated in the checklist below.

Checklist of earlobe bandaging

TECHNIQUE: EARLOBE BANDAGE
PREPARATION
STUDENT/NURSE PREPARATION
Should appear professional (in full and clean uniform) with Student Card
Hand washing
PATIENT PREPARATION
Identification of the patient
Identify the area for bandaging.
Check if the type of bandage is appropriate.
EQUIPMENTS
A clean tray
2 or many bandages of appropriate size.
Gloves if necessary
Adhesive plaster or safety pin.
Scissors.
IMPLEMENTATION
Set up material in front of the patient and on the side of the dominant hand of the nurse.
Be attentive on the nurse and Patient ergonometry.
Hold the roll in the dominant hand, and the beginning of the bandage in the other hand.
Face the patient.
Make 2 circles, the 1st slightly at an oblique angle, then fold up the formed point and maintain it by the 2nd circle.

Make three oblique drops as for the eye, which means upward from the ear and downward on the parietal region of the opposite side, in order to have a crossing at the location of the brow just above the eye.

LEFT EAR: Start from the top of the head, at the right side.

RIGHT EAR: Start under the ear.

Avoid covering the eye.

Secure bandages with adhesive plaster or a safety pin.

LESSON 5: Cranial bandage

a. Learning objective:

At the end of this lesson, students will be able to:

Perform cranial bandage technique

b. Learning resources

Books, videos, images illustrated in student book, bandage of appropriate size, adhesive tape or safety pin, pair of scissors, tray.

c. Introduction

In this lesson you are going to learn about cranial bandage technique

d. Learning activity 2.5

Guidance

The teacher requests to students attempting the learning activity 2.5 in the student book.

- Indicate the location of activity 2.5 to students in the student's book.
- Move around students observing if they are reading the correct page and what they are observing.
- Deliver the teaching resources (videos if any) in simulation lab to students
- Deliver the necessary materials to students to practice technique themselves
- Invite two students (pair) to practice the technique themselves after observing the image of technique in student's book or simulation lab video if any.
- Ask the other students to follow carefully the practice done by their colleagues.
- The students who are not acting may have to observe carefully without disturbing and should applaud the actors after.
- Note on chalkboard/manila or flip chart what was done well and what is to be corrected.
- Remember to assist those who are not performing technique correctly showing to them the steps to follow.
- Guide students to make notes in their notebooks referring to learner's book.

Answer to learning activity 2.5. and self-assessment 2.5

The cranial bandage technique is done in a stepwise approach illustrated in the checklist below.

Checklist of cranial bandaging

TECHNIQUE: CRANIAL BANDAGE
PREPARATION
STUDENT/NURSE PREPARATION
Should appear professional (in full and clean uniform) with student Card
Hand washing
PATIENT PREPARATION
Identification of the patient
Identify the area for bandaging.
Check if the type of bandage is appropriate.
EQUIPMENTS
A clean tray
2 or many bandages of appropriate size.
Gloves if necessary
Adhesive plaster or safety pin.
Scissors.
IMPLEMENTATION - Method with 2 bandages
Set up material in front of the patient and on the side of the dominant hand of the nurse.
Be attentive on the nurse and Patient ergonometry.
Hold the roll in the dominant hand, and the beginning of the bandage in the other hand.
Ensure good communication with the patient
Face the patient.
Bandage A describes circles around the face and nape of the neck
The bandage B describes the repeating ones on the right and the left side of the cranium while returning to the middle of the forehead and nape of the neck.
A: Make 2 occipito-frontal circles.
B: Place the lead of the bandage in the middle of the face.
A: secures B by semicircles.
B: Direct the lead of the bandage to the nape of the neck.
A: secures B by semicircles.
B: Direct the lead of the bandage to the forehead.

Carry out this technique several times.

Secure by 2 circles.

Secure bandages with adhesive plaster or a safety pin.

LESSON 6: Monocular bandage

a. Learning objective:

At the end of this lesson, students will be able to:

Perform monocular bandage technique

b. Learning resources

Books, videos, images illustrated in student book, bandage of appropriate size, adhesive tape or safety pin, pair of scissors, tray.

c. Introduction

In this lesson student will learn the cranial bandage technique

d. Learning activity 2.6

Guidance:

- Indicate the location of activity 2.6 to students in the student's book.
- Move around students observing if they are reading the correct page and what they are observing.
- Deliver the teaching resources (videos if any) in simulation lab to students
- Deliver the necessary materials to students to practice technique themselves
- Invite two students (pair) to practice the technique themselves after observing the image of technique in student's book or simulation lab video if any.
- Ask the other students to follow carefully the practice done by their colleagues.
- The students who are not acting may have to observe carefully without disturbing and should applaud the actors after.
- Note on chalkboard/manila or flip chart what was done well and what is to be corrected.
- Remember to assist those who are not performing technique correctly showing to them the steps to follow.
- Guide students to make notes in their notebooks referring to learner's book.

Answer to the learning activity 2.6 and self-assessment 2.6

The monocular bandage technique is done in a stepwise approach illustrated in the checklist below.

Checklist for left Monocular bandage

TECHNIQUE: LEFT MONOCULAR BANDAGING
PREPARATION
STUDENT/NURSE PREPARATION
Should appear professional (in full and clean uniform) with ID Card
Hand washing
PATIENT PREPARATION
Identification of the patient
Check if the type of bandage is appropriate.
Position the patient in a comfortable position
EQUIPMENTS
A clean tray
2 bandages of appropriate size.
Gloves if necessary
Adhesive plaster or safety pin.
Scissors.
IMPLEMENTATION
Set up material in front of the patient and on the side of the dominant hand of the nurse.
Be attentive on the nurse and Patient ergonometry.
Hold the roll in the dominant hand, and the beginning of the bandage in the other hand.
Ensure good communication with the patient
Face the patient.
Start on the forehead by a first circular, turned at an angle, at which it is fold back between first and the second circular without tightening too much.
Bring the bandage on the right and pass in oblique around the fixing turn.
Go down again in front of left eye, more possibly close to the nose.
Pass under the left ear lobule, then go gradually up on the nape of the neck.
Cover the first jet of the 2/3rd while moving away from the center, which means, crossing on the face then move away from the nose on the eye-level.
It is necessary to systematically move up on the ear, and down on the top from the head.
Make 3 wraps.
End by a frontal circle.
Secure bandages with adhesive plaster or a safety pin.

LESSON 7: Binocular bandage

a. Learning objective:

At the end of this lesson, students will be able to:
Perform binocular bandage technique

b. Learning resources

Books, videos, images illustrated in student book

c. Introduction

In this lesson student will learn to perform binocular bandage technique

d. Learning activity 2.7

Guidance:

- Indicate the location of activity 2.7 to students in the student's book.
- Move around students observing if they are reading the correct page and what they are observing.
- Deliver the teaching resources (videos if any) in simulation lab to students.
- Deliver the necessary materials to students to practice technique themselves.
- Invite two students (pair) to practice the technique themselves after observing the image of technique in student's book or simulation lab video if any.
- Ask the other students to follow carefully the practice done by their colleagues.
- The students who are not acting may have to observe carefully without disturbing and should applaud the actors after.
- Note on chalkboard/manila or flip chart what was done well and what is to be corrected.
- Remember to assist those who are not performing technique correctly showing to them the steps to follow.
- Guide students to make notes in their notebooks referring to learner's book.

Answer to the learning activity 2.7 and self-assessment 2.7

The binocular bandage technique is done in a stepwise approach illustrated in the checklist below.

Checklist for Binocular bandage

TECHNIQUE: BINOCULAR EYE BANDAGING
PREPARATION
STUDENT/NURSE PREPARATION
Should appear professional (in full and clean uniform) with Student Card
Hand washing
PATIENT PREPARATION
Identification of the patient
Identify the area for bandaging.
Check if the type of bandage is appropriate.
Position the patient in a comfortable position
EQUIPMENTS
A clean tray
2 bandages of appropriate size.
Gloves if necessary
Adhesive plaster or safety pin.
Scissors.
IMPLEMENTATION
Set up material in front of the patient and on the side of the dominant hand of the nurse.
Be attentive on the nurse and Patient ergonometry.
Hold the roll in the dominant hand, and the beginning of the bandage in the other hand.
Ensure good communication with the patient
Face the patient.
Start on the forehead, make 2 circles, the 1st slightly at an oblique angle, then fold up the formed point and maintain it by the 2nd circle.
From the nape of the neck pass through the right top of the head, the interior angle of left eye and under the left earlobe.
Go down in the nape of the neck, under the right earlobe, the interior angle of right eye and pass at the left top of the head.
Make a frontal circle.
Three times, repeat the movement while deviating, on the one hand from the top of the head, on the other hand from the nose: the wraps cross on the face above the nose.
Do not tighten on the eyes.
End by 2 wraps.
Secure bandages with adhesive plaster or a safety pin.

LESSON 8: Hand gloved bandage

a. Learning objective:

At the end of this lesson, students will be able to:

Perform hand gloved bandage

b. Learning resources

Books, videos, images illustrated in student book

c. Pre requisite/Revision /Introduction

In this lesson you are going to learn about cranial bandage technique

d. Learning activity 2.8

Guidance:

- Indicate the location of activity 2.8 to students in the student's book.
- Move around students observing if they are reading the correct page and what they are observing.
- Deliver the teaching resources (videos if any) in simulation lab to students
- Deliver the necessary materials to students to practice technique themselves
- Invite students to practice the technique on mannequin after observing the image of technique in student's book or simulation lab video if any.
- Ask the other students to follow carefully the practice done by their colleagues.
- The students who are not acting may have to observe carefully without disturbing and should applaud the actors after.
- Note on chalkboard/manila or flip chart what was done well and what is to be corrected.
- Remember to assist those who are not performing technique correctly showing to them the steps to follow.
- Guide students to make notes in their notebooks referring to learner's book

Answer to the learning activity 2.8 and self-assessment 2.8

Hand gloved bandage technique is done in a stepwise approach illustrated in the checklist below.

Checklist of hand gloved bandage technique

PROCEDURE : BANDAGES
TECHNIQUE: HAND GLOVED
PREPARATION
STUDENT/NURSE PREPARATION
Should appear professional (in full and clean uniform) with student Card
Hand washing
PATIENT PREPARATION
Identification of the patient
Identify the area of bandaging
Check if the type of bandage is appropriate
EQUIPMENTS
A clean tray
2 bandages of appropriate size.
Gloves if necessary
Adhesive plaster or safety pins.
Scissors.
IMPLEMENTATION
Set up material in front of the patient and on the side of the dominant hand of the nurse.
Be attentive on the nurse and Patient ergonometry.
Ensure good communication with the patient
Hold the roll in the dominant hand, and the beginning of the bandage in the other hand.
Face the patient.
Make 2 circles, the 1st slightly at an oblique angle, then fold up the formed point and maintain it by the 2nd circle.
If hand is pronated: start with the small finger of the right hand or start with the thumb of the left hand
If hand is supinated: start with the thumb of the right hand or start with the small finger of the left hand
Form a spiral at each finger, starting with the distal part of each finger.
Each time, make the bandage pass over the back of the hand before returning to the wrist.
Make a circle at the wrist before to start wrapping next finger.
End by 2 circles at the wrist.
Secure bandages with adhesive plaster or a safety pin.

LESSON 9: Triangular bandage technique

a. Learning objective

At the end of this lesson, students will be able to:

Perform triangular bandage

b. Learning resources

Books, videos, images illustrated in student book

c. Introduction

In this lesson you are going to learn about cranial bandage technique

d. Learning activity 2.9

Guidance:

- Indicate the location of activity 2.9 to students in the student's book.
- Move around students observing if they are reading the correct page and what they are observing.
- Deliver the teaching resources (videos if any) in simulation lab to students
- Deliver the necessary materials to students to practice technique themselves
- Invite two students (pair) to practice the technique themselves after observing the image of technique in student's book or simulation lab video if any.
- Ask the other students to follow carefully the practice done by their colleagues.
- The students who are not acting may have to observe carefully without disturbing and should applaud the actors after.
- Note on chalkboard/manila or flip chart what was done well and what is to be corrected.
- Remember to assist those who are not performing technique correctly showing to them the steps to follow.
- Guide students to make notes in their notebooks referring to learner's book.

Answer to the learning activity 2.9 and self-assessment 2.9

The triangular bandage technique is done in a stepwise approach illustrated in the checklist below.

Checklist of triangular bandage

TECHNIQUE: TRIANGULAR BANGADE
PREPARATION
STUDENT/NURSE PREPARATION
Should appear professional (in full and clean uniform) with student Card
Hand washing
PATIENT PREPARATION
Identification of the patient
Identify the area for bandaging.
Check if the type of bandage is appropriate.
EQUIPMENTS
A clean tray
Gloves if necessary
A sling, a loincloth, a draw-sheet folded in triangle, an Ace bandage 5 cm widths
2 to 3 safety pins
IMPLEMENTATION
Set up material in front of the patient and on the side of the dominant hand of the nurse.
Be attentive on the nurse and patient ergonometry.
Face the patient.
Ensure good communication with the patient
Ask to the patient to bend his arm to be placed in a sling bringing the forearm on the chest, so that the hand is placed higher than the elbow.
Place the bandage under the patient's arm on his chest (the center of the triangle base under the wrist, angle point at the level of the elbow, neck scarf at the level of the neck).
Hold upward lower the sling of the arm, above the wrist.
Fix a reef knot on the unaffected side (never fix it on the spinal column). Fold the excess cloth on the level of the elbow and fix it with safety pins.
Check the correct setting of the scarf (hand and forearm maintained above the elbow).

LESSON 10: Stump bandage technique

a. Learning objective:

At the end of this lesson, students will be able to:
Perform stump bandage technique

b. Learning resources

Books, videos, images illustrated in student book, mannequin.

c. Introduction

In this lesson you are going to learn about cranial bandage technique

d. Learning activity 2.10

Guidance:

- Indicate the location of activity 2.10 to students in the student's book.
- Move around students observing if they are reading the correct page and what they are observing.
- Deliver the teaching resources (videos if any) in simulation lab to students
- Deliver the necessary materials to students to practice technique themselves including appropriate mannequin
- Invite students to practice the technique on mannequin after observing the image of technique in student's book or simulation lab video if any.
- Ask the other students to follow carefully the practice done by their colleagues.
- The students who are not acting may have to observe carefully without disturbing and should applaud the actors after.
- Note on chalkboard/manila or flip chart what was done well and what is to be corrected.
- Remember to assist those who are not performing technique correctly showing to them the steps to follow.
- Guide students to make notes in their notebooks referring to learner's book

Answer to learning activity 2.10 and self-assessment 2.10

The stump bandage technique is done in a stepwise approach illustrated in the checklist below.

Stump bandage checklist

PROCEDURE: BANDAGES
TECHNIQUE: STUMP BANDAGE
PREPARATION
STUDENT/NURSE PREPARATION
Should appear professional (in full and clean uniform) with student Card
Hand washing
PATIENT PREPARATION
Identification of the patient
Identify the area of bandaging
Check if the type of bandage is appropriate
EQUIPMENTS
A clean tray
2 bandages of appropriate size.
Gloves if necessary
Adhesive plaster or safety pin.
Scissors.
IMPLEMENTATION
Set up material in front of the patient and on the side of the dominant hand of the nurse.
Be attentive on the nurse and Patient ergonometry.
Hold the roll in the dominant hand, and the beginning of the bandage in the other hand.
Face the patient.
Ensure good communication
Make 2 circles, the 1 st slightly at an oblique angle, then fold up the formed point and maintain it by the 2 nd circle.
Turn the roll over and bring it back directly above the center of the extremity to cover.
Direct the bandage towards the lower section where it is held with the other hand, before being brought back at the upper side of the extremity to be recovered.
Overlap the previous turn of 2/3 of the bandwidth on the right side of the central bandage.
Make then another turn while passing on the left side from central bandage and by still covering it with 2/3.
Continue, alternating the left and the right side, until the extremity is completely covered in an aesthetic manner.

Fix by a circle maintaining the base.
Continue by spirals or a spica (distal towards proximal).
Secure by 2 circles.
Secure bandages with adhesive plaster or a safety pin.

Skills lab

The teacher will mostly use the simulation lab during this unit delivery. She/he will also encourage students to do self-practice until they master the bandaging techniques.

It is imperative to demonstrate procedures using any available means; either, videos, images, simulated patients, models and make sure that the materials used will help students to have an idea of the real situation prior to going for clinical placement.

Example of a model to be used for stump bandaging technique:



At the end of the unit, students will need to be evaluated practically whereby the teacher can decide on the appropriate way to be adopted.

Evaluation can be done by one teacher to one student, and the learner performs the required technique for evaluation. Another possible approach is to evaluate students via OSCE (objective, structured, clinical, and evaluation) whereby all students perform the same techniques and are evaluated in similar conditions using the same marking guide.

Theoretical assessment

To assess theoretical knowledge students will be given theoretical assessment paper. Allow them to attempt questions of the end unit assessment. Request them to close all their books and attempt the assessment on the given piece of paper. This theoretical assessment should be completed in 1 period meaning in 40 minutes.

Practical assessment (OSCE)

This session is reserved for objective structured clinical exam (OSCE) and it has only 3 periods meaning that it should be completed in 120 minutes.

Guidance

- Arrange 3 stations in the skills lab. Station 1 will be for spiral bandage technique, station 2 will be for hand gloved bandage technique and station 3 will be for stump bandage technique.
- Request 3 facilitators (teachers) to help you out in this activity.
- Arrange check list for each technique and dispose them in their respective stations.
- Each teacher will be in one station, using designed checklist to assign marks to each student rotating in that station.
- Each student should rotate in each station to be assessed if he/she has acquired skills of bandage application
- Compile marks for each station.
- Student who failed to pass the OSCE guide them to do the remedial activities

2.6. Summary of the unit

Bandaging, a process of covering a wound or an injured body part involves different techniques applied to different body parts. The purposes of bandaging are to immobilize an injured part, to relieve pain, to protect a wound by securing a dressing, to control bleeding through pressure application and to reduce or prevent swelling. While applying bandages, there are rules to follow because bandage applied properly can aid in the recovery of a patient while a carelessly or improperly applied bandage can cause discomfort to the patient, expose the wound to danger of infection and even imperil the life of the patient.

Bandages have different types and are used for different purposes; it is the responsibility of health care provider to choose the appropriate type of bandage based on the bandaging technique to be performed. The three major types of bandages are triangular, roller and tubular bandages and they have different sizes in length and width depending on body part to be bandaged. The frequent bandaging techniques used are spiral, spica, earlobe, monocular, binocular, capeline, hand gloved, triangular and stump bandaging techniques.

The steps of bandaging are to be followed as well and the necessary materials such as bandage of appropriate size, a pair of scissors, an adhesive plaster or safety pins, padding material, a kidney tray, a towel or tissue are needed to enable the implementation of a correct bandaging technique.

2.7. Additional information to the teacher

Key definitions:

A bandage: Is a piece of cloth or similar material that is rolled and applied to a body part in order to support, to immobilize soft tissues, to provide comfort, to anchor dressings, to provide protection and prevent or reduce swelling. This implies the RICE (Rest, Ice, Compression and Elevation) method which is a series of steps for treating a variety of injuries including sprains, fractures and contusions.

Immobilization: The method of preventing motion or holding anatomic structures in place in an injured limb or body part by the use of materials to limit such movements of the joint and the injured part.

Splint: A general term that is a hardened material or device, which is usually non-circumferential that is, used to immobilize or support a limb or body part. It utilizes bandages or cravats to anchor this to the limb. This allows for swelling. This is an effective temporary support to the injured limb prior to definitive surgical intervention.

Signs of a too tightened bandage: A bandage which is too tight interferes with the nerves and blood circulation. It is better to be cautious after applying a bandage and check for warning signs like tingling in fingers or toes, coldness of extremities, inability to move fingers or toes, paleness or cyanosis of fingernails or toes, weakness or absence of pulse on the injured limb.

Intervention in case of a tightened bandage: If any of these danger signs occur, take off the bandage and reapply it again more carefully. One of the ways to assess the level of tightness is to slide a finger under the bandage and see if it is not too tight. With regards to joints, there should be 2 fingers width gap between the knee and the top of the bandage.

2.8. Answers to the end unit assessment

Answer to question 1

- 1 – d
- 2 – c
- 3 – a
- 4 – b

Answer to question 2

Five rules of bandage application include.

- Putting the patient in a comfortable position,
- Support the injured area while bandaging, if a joint is involved; flex it slightly,
- Face the patient while applying the bandage, except when applying it on the head,
- Hold the roll of the bandage in the dominant hand when applying the bandage,
- Check the circulation in the area beyond the bandage.

Answer to question 3

Two specific examples of roller bandaging techniques include.

- Spiral bandage and Spica bandage

Answer to question 4

3 purposes of bandaging.

- To immobilize an injured part and relieve pain,
- To protect a wound and secure dressing,
- To control bleeding from wounds,
- To reduce or prevent swelling.

Answer to question 5

The consequences of tightening the bandage

If bandages are too tightly wrapped, they can cause excessive pressure and cut off blood circulation

Answer to question 6

A bandage needs to be anchored at the beginning and throughout the bandaging so that the purpose of the bandage application can be met; this can be for immobilization, for support, for protection or for controlling bleeding.

2.9. Additional Activities

2.9.1. Remedial activities

Theoretical questions for remedial

1. The three major types of bandages are:
 - a. Spiral, spica and triangular bandages
 - b. Roller, tubular and triangular bandages
 - c. Spiral, triangular and tubular bandages

Answer: b

2. Bandaging can be done purposefully to:
- To immobilize an injured part and stop blood circulation
 - To relieve pain and prevent joint movement
 - To protect a wound and secure dressing.

Answer: C

3. A nurse should face the patient while applying the bandage, except:
- When applying the bandage on the head
 - When applying a triangular bandage
 - When applying the stump bandage

Answer: D.

4. These bandages are used for supporting purpose in case of contusions, light sprains and post-plaster casting, hold dressings on fingers or toes because those areas are difficult to bandage:
- Roller bandages
 - Triangular bandages
 - Tubular bandages

Answer: C

5. The size of bandages is different regarding body part to be bandaged; the appropriate width for a bandage of head must be:
- 10-15 cm
 - 6-8 cm
 - 5 cm

Answer: C

6. Matching question

Technique of bandaging	Description
1. Handkerchief bandage	a. Is a recurrent bandage of the stump is used to control postoperative edema and to shape the stump
2. Spiral bandage	c. When the whole scalp is to be covered and double headed roller bandage is used.
3. Hand gloved bandage	d. A bandage rounds a part of the body, overlapping the previous section at each turn.
4. Capeline bandage	e. A bandage in which a figure of eight turns are applied, each a little higher or lower, overlapping a portion of each preceding turn so as to give an imbricated appearance.
6. Spica bandage	g. Is the technique of bandage used for temporary or permanent dressing of wounds, fractures, dislocations and slings
	h. A complete bandage of hand which is used to retain dressings on the back of the hand.

Answer to matching questions

1=d; 2=c; 3=a; 4=b

Practical question for remedial

The teacher will prepare the stations for OSCE based on techniques failed during first OSCE. The student will repeat only the technique failed during the first OSCE.

2.9.2. Consolidation activities

Consolidation activity 1.

A 20 years old female named B. had a forearm trauma secondary to sliding from stairs of the market where she went for shopping, the accident happened while she was busy chatting on her phone. She was brought to the health center complaining for severe pain, forearm enlargement, difficulty moving her arm and presence of hematoma around the elbow joint. Through physical assessment they suspected that Mrs. B. had a sprain of the elbow joint but it is important to rule out a fracture. Therefore Mrs. B. needs to be transferred for further investigations and management.

As an associate nurse working at that Health post:

1. Suggest your intervention plan for Mrs. B.'s case.
2. Explain the rationale of your planned interventions and decisions.
3. Using simulation by sketch, perform the planned interventions in a group of three students.

Answers for consolidation activity 1

1. Suggestion of the intervention plan
 - On admission, give to Mrs. B. a comfortable position
 - Administer prescribed oral pain relievers
 - Perform a triangular bandage of the forearm
2. Rationale of planned interventions and decisions
 - Comfortable position for relieving pain
 - Administer pain relievers for pain relief and ensuring patient's comfort
 - Perform a triangular bandage of the forearm for supporting and immobilizing the arm
3. In a simulation session, three students (number 1, 2 and 3) will be involved in the scenario.
 - Number one: Will be the Patient. She /He will simulate being in pain and having an injured right arm making any arm movement difficult.
 - Number two: Will be the Associate Nurse. She/he will work under the guidance of the senior nurse for the betterment of the patient and administer oral painkiller medications as prescribed by the senior nurse.
 - Number three: Will be the registered nurse. She/he will receive the patient, assess the patient holistically and come up with differential diagnosis and treatment plan.

She / he will also guide the Associate nurse during care provision.

TECHNIQUE: TRIANGULAR BANGADE

PREPARATION

STUDENT/NURSE PREPARATION

Should appear professional (in full and clean uniform) with student Card

Hand washing

PATIENT PREPARATION

Identification of the patient

Identify the area for bandaging.

Check if the type of bandage is appropriate.

EQUIPMENTS

A clean tray

Gloves if necessary

A sling, a lincloth, a draw-sheet folded in triangle, an Ace bandage 5 cm widths

2 to 3 safety pins

IMPLEMENTATION

Set up material in front of the patient and on the side of the dominant hand of the nurse.

Be attentive on the nurse and patient ergonometry.

Face the patient.

Ensure good communication with the patient

Ask to the patient to bend his arm to be placed in a sling bringing the forearm on the chest, so that the hand is placed higher than the elbow.

Place the bandage under the patient's arm on his chest (the center of the triangle base under the wrist, angle point at the level of the elbow, neck scarf at the level of the neck).

Hold upward lower the sling of the arm, above the wrist.

Fix a reef knot on the unaffected side (never fix it on the spinal column). Fold the excess cloth on the level of the elbow and fix it with safety pins.

Check the correct setting of the scarf (hand and forearm maintained above the elbow).

Consolidation activity 2.

A child Y. of 8 years old is brought to the Health center by his mother having superficial wounds secondary to burn and this is the 4th day of wound care. The wounds are on the back of the both hands and fingers. After wound cleaning and dressing, it is necessary to cover the dressing with a bandage. Answer to the questions below:

1. Which bandaging technique is appropriate for covering the dressings of child Y.?
2. What are the materials needed for that bandaging technique?
3. Perform the stated bandaging technique on the model in the simulation lab.

Answers for consolidation activity 2

1. The appropriate bandaging technique for covering the dressings of child Y is the hand gloved bandage.
2. The materials needed for hand gloved bandaging technique are:
 - A clean tray
 - Bandages of appropriate size and width
 - Gloves
 - Adhesive plaster or safety pins
 - A pair of scissors
3. Below is the checklist for hand gloved bandage technique.

PROCEDURE : BANDAGES
TECHNIQUE: HAND GLOVED
PREPARATION
STUDENT/NURSE PREPARATION
Should appear professional (in full and clean uniform) with student Card
Hand washing
PATIENT PREPARATION
Identification of the patient
Identify the area of bandaging
Check if the type of bandage is appropriate
EQUIPMENTS
A clean tray
2 bandages of appropriate size.
Gloves if necessary
Adhesive plaster or safety pins.
Scissors.
IMPLEMENTATION
Set up material in front of the patient and on the side of the dominant hand of the nurse.
Be attentive on the nurse and Patient ergonometry.
Ensure good communication with the patient
Hold the roll in the dominant hand, and the beginning of the bandage in the other hand.
Face the patient.

Make 2 circles, the 1st slightly at an oblique angle, then fold up the formed point and maintain it by the 2nd circle.

If hand is pronated: start with the small finger of the right hand or start with the thumb of the left hand

If hand is supinated: start with the thumb of the right hand or start with the small finger of the left hand

Form a spiral at each finger, starting with the distal part of each finger.

Each time, make the bandage pass over the back of the hand before returning to the wrist.

Make a circle at the wrist before to start wrapping next finger.

End by 2 circles at the wrist.

Secure bandages with adhesive plaster or a safety pin.

2.9.3 Extended activities

1. Materials needed to make a bandaging technique effectively include the following:
 - a. A bandage, adhesive plaster, padding material
 - b. A bandage, an impermeable protection, padding material
 - c. A bandage, a kidney tray, padding material

Answer: C

2. A bandage that rounds a part of the body, overlapping the previous section at each turn is known as:
 - a. Spiral bandage
 - b. Spica bandage
 - c. Triangular bandage

Answer: A

3. A bandage in which a figure of eight turns are applied, each a little higher or lower, overlapping a portion of each preceding turn so as to give an imbricated appearance is called:
 - a. Eight bandage
 - b. Spica bandage
 - c. Spiral bandage

Answer: B

- 4) When applying the bandage, the circulation in the area distal to the bandage is to be checked because:
- a. A bandage can cause the inflammation in distal area
 - b. A bandage may be the cause of prolonged pain in distal area
 - c. If a bandage is too tight, it can stop blood supply to the level below compression

Answer: C

5. Show what can be done to assess the tightness of a bandage?

Answer: The student will slide a finger under the bandage

3.1 Key unit competence

Perform basic Laboratory investigations for common conditions and venipuncture

3.2. Prerequisites

Students will learn better to perform basic laboratory investigations for common conditions and venipuncture if they have understanding of the following concepts: Malaria, Diabetes, kidney failure and professional code of conduct. Ask students to describe those concepts. The answer will include:

Malaria is a serious and sometimes fatal disease caused by a parasite that commonly infects a certain type of mosquito which feeds on humans. People who get malaria are typically very sick with high fevers, shaking chills, and headache. Four kinds of malaria parasites infect humans: *Plasmodium falciparum*, *P. vivax*, *P. ovale*, and *P. malariae*. It can be detected by the use of rapid diagnostic tests (RDTs) which assist in the diagnosis of malaria by detecting evidence of malaria parasites (antigens) in human blood.

Diabetes is a long lasting disease that occurs when blood glucose level is too high. It happens when the pancreas does not produce enough insulin or when the body cannot effectively use the insulin it produces. Through the use of glucometer, glycemia or blood glucose level is detected. Elevated plasma glucose, and an impaired renal glucose absorptive capacity, can lead to glucose to be detected in urine using urine dipsticks.

Kidney failure, also called end-stage renal disease happens when the kidney is failing to filter waste from blood. It progresses from acute to chronic failure.

In addition, students should recall the professional code of conduct in performing the technique of basic laboratory investigations. Please refer to it.

3.3 Cross-cutting issues to be addressed

a. Environment and sustainability

Laboratory samples can spread germs in the environment if not disposed appropriately. As a facilitator, emphasize on the fact that environment must be sustainably protected for different reasons such as; environment is the habitat of all populations of living organisms, environment contains all resources needed by all populations in order to grow, if the environment is contaminated, the population sizes should decrease because different organisms within the environment will die as a results of poor environment sanitation.

b. Inclusive education

To ensure that learning is inclusive, as a facilitator: Place students with visual impairment in appropriate places. Those with short-sightedness (myopia) must sit on front desks in class. If you have children with low vision, remember to print in appropriate font size (large print). Those with long sightedness must sit on back desks.

c. Gender

This course requires the participation of both girls and boys. Make sure that all students are actively involved not only boys.

3.4 Guidance on the introductory activity 3

Before starting the first lesson of this unit of basic laboratory investigation for common conditions, ask students to attempt an introductory activity. This activity intends to: relate the unit with students' daily life to attract their attention and assess students' understanding of the concepts of laboratory investigations.

As a facilitator, request students to:

- Carefully observe the figures 3.1 and 3.2 in the student book
- In group or in pairs, answer the questions related to the figures.
- Each group records the answers. Let the students know that there are no wrong answers
- Appoint any 2 groups to write their answers on the chalkboard or flipchart.
- Ask other groups members if they have something to add on what is written on the chalkboard or flipchart.
- Focus on the answers related to lesson 1.

Answers of the introductory activity

Answer to question 1.

- Both figures show different laboratory investigations.
- Image 3.1 show a health care provider who is collecting blood sample after pricking the patient finger. The blood sample is being collected using a white pipette. Usually sample collected like this get dropped in device which produce results rapidly.
- Image 3.2 show a health care provide holding a urine dipstick. He/she is examining either level of glucose or protein (albumin) in urine.

Answer to question 2.

Invasive procedure refers to a medical procedure that invades (enters) the body, usually by cutting or puncturing the skin or by inserting instruments into the body. Blood sample in image 3.1 was obtained after puncturing (pricking) the skin on the finger while in image 3.2, urine was dropped in the container (there was no body invasion to collect it.)

Answer to question 3.

- A standard urine test strip may comprise up to 10 different chemical pads or reagents which react (change color) when immersed in, and then removed from a urine sample. The test can often be read in as little as 60 to 120 seconds after dipping, although certain tests require longer.
- Most rapid diagnostic test provides results within 15 to 20 minutes.
- Glycemia test can produce results in 15 seconds or less

3.5 List of lessons / sub-headings

No	Lesson title	Learning objectives	Number of period
1	Basic laboratory investigations for common conditions	Understand basic laboratory investigations for common conditions.	2
2	Technique of performing RDT for Malaria	Perform rapid diagnostic test for malaria	2
3	Technique of performing urine test for glucose and albumin	Perform urine test for glucose and albumin	2
4	Technique of performing glycemia test	Perform glycemia test	3
5	Venipuncture	Perform venipuncture and obtain blood sample	2
6	Theoretical assessment	Explain clearly basic laboratory investigations for common conditions	1
7	Skills lab	Gain hand on skills to perform the technique of basic laboratory investigation.	1
8	Practical assessment in the skills lab (OSCE)	Demonstrate acquisition of hand on skills to perform techniques of basic laboratory investigation	3

LESSON 1: Basic laboratory investigations for common conditions

This is the first lesson of the unit which should be taught in 2 periods meaning that it has 80 min and it should also cover the introduction of the unit.

a. Learning objectives

At the end of the lesson, students will be able to:

- Explain and rationalize rapid diagnostic test for malaria
- Describe glycemia test and principles of glycemia test
- Explain and differentiate glycosuria and albuminuria

b. Teaching resources

- Student book
- Projector

c. Prerequisites

Students will learn better laboratory investigation for common conditions, if they have the understanding on concepts of common condition including, malaria, diabetes, and kidney failure. Ask students to explain orally those concepts. The answers are already defined in the introduction of this unit.

d. Learning activity 3.1

Guidance

To facilitate students to do the activity 3.1, form groups of 3 to 5 students.

- Ask them to attempt the learning activity 3.1
- Move around groups guiding and facilitating them.
- Select like 2 groups to share their answers to the whole class by requesting the group representative to write them on the chalkboard or flipchart.
- Ask other groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented findings.
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability or visual impairment get what you say.

Answers to learning activity 3.1

- **Rapid diagnostic test (RDT)** : Is a test done to a patient to investigate if he/she has or does not have a particular disease. The rationale for using RDT is to get results as quick as possible. Normally within 15 minutes .
- **Glycemia test:** Glycemia test also referred to as blood glucose test is a test used to measure the level of glucose within the blood, again it is used to find out if the blood sugar levels are in the healthy range. It can be measured in mg/dl or in mmol/l. the normal threshold for fasting glucose level in blood is between 70 to 110 mg/dl while for random glucose level is around 126 mg/dl or a bit lower.
- **Glucosuria test:** Is the measurement of glucose level in urine. The presence of glucose in the urine is called glycosuria. It results from either an elevated plasma glucose or an impaired renal glucose absorptive capacity.
- **Albuminuria test:** Albuminuria is a sign of kidney disease showing that the patient has too much albumin in the urine. Albumin is a protein found in the blood. A healthy kidney doesn't let albumin pass from the blood into the urine. A damaged kidney lets some albumin pass into the urine.

Answers to self-assessment 3.1

Answer to question 1.

Rapid diagnostic tests for malaria detect **evidence of malaria parasites (antigens) in human blood**. A drop of peripheral blood, normally collected from a finger or heel prick get dropped into the device then with reaction with human blood, the device shows the appearance of line near T and C when there is evidence of plasmodium parasites or line near C and no line near T when there is no evidence of parasites and line near T and or no line meaning that the results is invalid.

Answer to question 2

A studies assessing the sensitivity and specificity of two different brand of RDT for malaria used Rwanda has demonstrated that the sensitivity of RTD for malaria were around (80.2%-89.5%) while the specificity was (86.2 %-94.3).

Answer to question 3

- The normal ranges of glucose from peripheral capillary is estimated to be 70 mg/dl to 110mg/dl (4.0 to 5.4 mmol/l). It can be higher than normal when the body has too little insulin or when then body can't use insulin properly.
- Glucosuria (glucose in urine) occurs in all normal individuals in amounts up to 25 mg/dl in random flesh urine. Abnormally increased glycosuria, results from either an elevated plasma glucose, an impaired renal glucose absorptive capacity, or both.

LESSON 2: Technique of performing RDT for malaria

a. Learning objectives

At the end of this lesson students should be able to perform the technique of rapid diagnostic test for malaria. Ask students to do the learning activity 3.2.1

b. Learning resources:

- Student book
- Illustrate of the technique of RDT for malaria
- Movies and video showing how to perform the technique of rapid diagnostic test for malaria available on YouTube.

c. Introduction

In this lesson students will be taught the technique of rapid diagnostic test for malaria. This is test is done to diagnose malaria.

d. Learning activity 3.2.1

Guidance

To facilitate students to do the activity 3.2.1, pair students in group of 2 students.

- Ask them to attempt the learning activity 3.2.1 where each will perform the technique of rapid diagnostic test for malaria modeling from the illustrate provided in the activity.
- Move around groups guiding and facilitating them to do the technique of rapid diagnostic test. Respond to their question.
- Request like 2 groups to respond to the theoretical questions and ask the rest to complement their colleagues.

Answer to learning activity 3.2.1

Answer to question 1.

The technique of rapid diagnostic test for malaria, is done in a stepwise approach using the following checklist.

TECHNIQUE : RAPID DIAGNOSTIC TEST FOR MALARIA

STUDENT / NURSE PREPARATION

Should appear professional (in full and clean uniform) with student Card

Wash your hand

PATIENT PREPARATION

Identification of the patient

Introduce yourself to the patient including your name and role

Briefly explain the procedure involved using patient friendly language

Gain consent to perform rapid test for malaria

Identify the area for collecting the sample

EQUIPMENTS

- A clean tray
- Disposable gloves
- New unopened alcohol swab
- Unopened Lancet
- RDT kit
- Cotton wool/gauze
- Buffer
- Safety box
- Dustbin
- Pen
- Chair

IMPLEMENTATION

Wash the hands and put on gloves.

Open RDT Kit and remove the test, capillary tube and a disinfectant sachet

Write the patient name on the test

Open the alcohol swab. Grasp and clean the patient finger with alcohol swab. Allow the finger to dry before pricking

Open the lancet prick the patient finger to get a drop of blood. Do not allow the tip of lancet to touch anything before pricking the patient finger

Discard used lancet in the safety box immediately after pricking the finger. Do not put the lancet down before discarding it.

Use capillary tube to collect the drop of blood

Use the capillary tube to put the drop of blood into the square hole

Discard the capillary tube in the safety box

Add buffer into round hole of the test

Wait 15 minutes after adding buffer

Read the response.

- Line near T and C =Positive,
- Line near C and no line near T=negative,
- Line near T and or no line =invalid

Remove gloves and dispose them with used sachet and alcohol swabs in the dustbin

Inform the patient the results

Thank the patient for his/her collaboration

Wash the hands

Answer to question 2

Keeping hands clean is one of the most important steps done before any nursing or medical procedure. It helps in preventing the spreading of germs to others. Many diseases and conditions are spread by not washing hands with soap and clean, running water.

Answer to question 3

Lancet is a sharp object. Sharp object should be disposed in their specific safety box /sharp box to avoid injuries and spreading of infections to the health care worker and even to patients. Studies have revealed that even a minor sharp injury with only a small loss of blood carries the risk of transfer of over 20 pathogens including; Hepatitis B Virus (HBV), Hepatitis C Virus (HCV), HIV/AIDS virus, malaria, syphilis, tuberculosis, brucellosis, herpes virus and diphtheria.

Answer to question 4

Finger should be dried in order to allow vaporization of the alcohol. If not dried this can yield false results and consequently to patient misdiagnosis.

The answer to self-assessment 3.2.1 is the same as answer to question 1 of the learning activity 3.2.1

LESSON 3: Technique of performing urine test for glucose and albumin

a. Learning objectives.

At the end of this lessons, students should be able:

- To perform the technique of urine test,
- To interpret dipstick results for albuminuria and glycosuria

b. Learning resources

- Student book
- Illustrate of the technique of urine test using dipsticks
- Movies and video showing how to perform the technique of rapid diagnostic test for malaria available on YouTube

c. Introduction

In this lesson students will be taught the technique of urine test for albumin and glucose. These test can be done to diagnose diabetes mellitus and preeclampsia in pregnant women.

d. Learning activity 3.2.2

Guidance

- To facilitate students to do the activity 3.2.2 found in their student book, pair students in group of 2 students.
Avail materials for Urine test.
- Ask them to attempt the learning activity 3.3.2 where each will perform the technique of urine test for glycosuria and albuminuria referring to the checklist provided.
- Move around groups guiding and facilitating them to do the technique of urine test for albumin and glucose. Respond to their question.

Answer to learning activity 3.2.2

The technique of urine test for glucose and or albumin is done in a stepwise approach as follow

Technique : Urine test for glucose and albumin

STUDENT/NURSE PREPARATION

Should appear professional (in full and clean uniform) with student Card

Wash your hand

PATIENT PREPARATION

Identification of the patient

Introduce yourself to the patient

Briefly explain the procedure involved using patient friendly language

Gain consent to perform urine test

EQUIPMENTS

- Disposable gloves
- Dipsticks
- Package insert
- Specimen container
- Dustbin
- Timer

IMPLEMENTATION

Wash the hands and put on gloves.

Confirm if the patient's identification on the sample bottle are correct

Check the expiry date of the urinalysis dipstick

Remove a dipstick from the container whilst avoiding touching the reagent squares

Replace the container lid to prevent oxidization of the remaining dipsticks

Insert the dipstick into the urine sample, ensuring all reagent squares are fully immersed

Remove the dipstick immediately and tap off any residual urine using the edge of the container, making sure to hold the dipstick horizontally to avoid cross-contamination of the reagent squares

Lay the dipstick flat on a paper towel

Use the guide on the side of the testing strip container to interpret the findings. Different reagent squares on the strip need to be interpreted at different times, so ensure you interpret the correct test at the appropriate time interval (60 seconds for albumin, and 30 second for glucose).

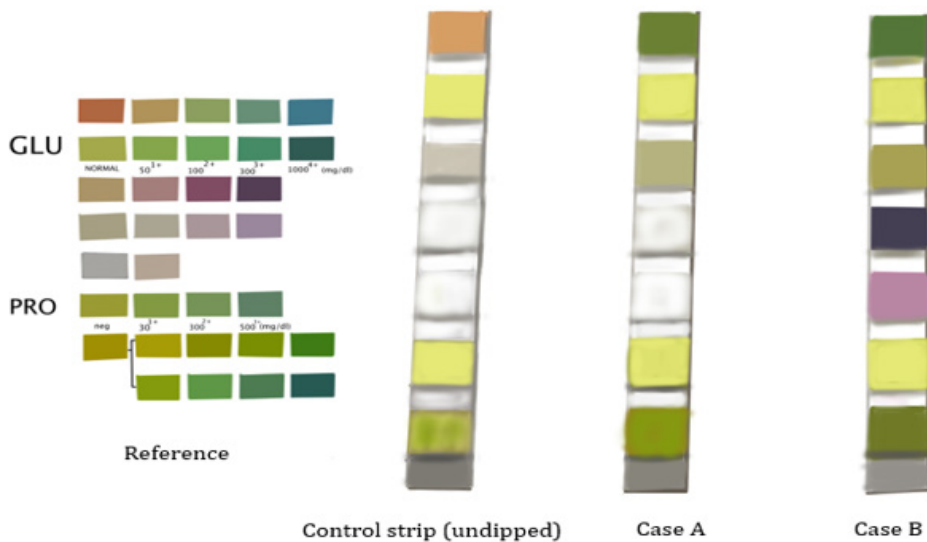
Once you have interpreted all of the tests, discard the strip into the clinical waste bin along with gloves

Wash your hands

Document results and inform it to the patient

Thank the patient

Answer to self-assessment 3.2.2



The image above shows a urine test done using dipsticks on two different patients.

Case 1 and Case B show urine strip removed from the urine container after being fully immersed.

Looking at dipped strip in case A, case B and control strip (undipped) we can definitely see change in color on different reagents square in case A and case B compared to how they were before in control strip.

Each reagent square should be analyzed independently because the chemicals in each pad indicate the presence of specific substances in the urine. The strips may also indicate the pH and specific gravity of the urine, depending on the type of strip that is used.

In our case we will only refer to the analysis of glucose and albumin in the urine.

Referring to the reference color scale provided in the question, the glucose should be analyzed on line 2 while albumin (protein) should be analyzed on line 6.

Second (2nd) Reagents square (pad) which analyze glycosuria in case A and case B has colored into **yellow**. Plotting to the reference color scale on line 2, the **yellow color** indicates the normal glucose level in urine. Therefore, strips in case A and case B indicate normal glucose level in urine.

6th reagent square (pad) which analyze proteinuria (Albuminuria) in case A and case B has colored in a bit yellow. Referring to the reference color scale in question, the yellow color indicates normal protein in urine (albumin in urine), therefore case A and Case B indicate normal albumin level in urine.

LESSON 4: Technique of performing glycemia test

a. Learning objectives.

At the end of this lessons, students should be able:

- To perform the technique of glycemia test
- To differentiate fasting glucose level and random glucose level.

b. Learning resources

Student book, illustrate of the technique of glycemia test, movies and video showing how to perform the technique of glycaemia test available on YouTube.

c. Introduction

In this lesson students will be taught the technique of glycemia test which can help in diagnosing diabetes mellitus.

d. Learning activity 3.2.3

Guidance

To facilitate students to do the activity 3.2.3 found in their student book, pair students in group of 2 students.

- Ask them to attempt the learning activity 3.2.3 where each will screen his/her colleague for glycemia modeling from the illustrate provided.
- Avail all materials for the technique
- Move around groups guiding and facilitating them to do the technique glycemia test. Respond to their question.

Answer to learning activity 3.2.3.

Answer to question 1.

In the skills lab to perform the technique of glycemia test, check if student have followed the checklist below.

PROCEDURE: To perform the technique of glycemia test

PREPARATION

STUDENT/NURSE PREPARATION

Should appear professional (in full and clean uniform) with student Card

Hand washing

PATIENT PREPARATION

Identification of the patient

Introduce yourself to the patient including the name and your role

Briefly explain the procedure involved using patient friendly language

Gain consent to perform the glycemia test
Identify the area for collecting the sample
EQUIPMENTS
<ul style="list-style-type: none"> • A clean tray • Proper gloves • alcohol swab • glucometer • test strips • lancet • gloves • cotton wool/gauze • safety box
IMPLEMENTATION
Wash the hands and put on gloves.
Choose the site for the blood sample: usually the side of a finger, but the arm or thigh may be used (change the site used if frequent measurements are needed)
Use an alcohol swab to clean the site and let the alcohol dry.
Load a test strip into the glucose monitor
With a single use lancet prick the site for sample collection. Don't go deeper than necessary
Dispose the lancet into the safety box
Apply the blood to the testing strip in the correct way: some strips need the blood drop to be over the whole of the test pad and some suck up the blood directly from the site of the bleeding
Read and record the result, reporting and/or responding to abnormal readings.
Inform glycemia results to the patient
Thank the patient for his/her collaboration
Dispose of all used equipment safely
Wash the hands

Answer to question 2

The **fasting glucose** level refer to the glycemia obtained after 8hours of fasting (without eating anything). In non-diabetic patient, fasting glucose level will vary between 70 md/dl to 110mg/dl or between (4.0 mmol/l to 6 mmol/L. In diabetic patient, the fasting glucose level will be above 110mg/dl. Whereas random glucose level refers to the glucose level checked without regard to the last meal. It is useful for people who need a speedy diagnosis, such as those with type 1 diabetes who require medication as a matter of emergency. Diabetes is diagnosed if random glucose level is above 200 mg/ dl or above 11.1 mmol/l with symptoms of diabetes.

Answer to self-assessment 3.2.3

To assess if student have performed the technique of glycemia very well, check if they have followed the checklist for the technique as described in the table above

LESSON 5: Venipuncture

a. Learning objectives

At the end of this lesson students should be able to perform the technique of venipuncture. Ask students to do the learning activity 3.5

b. Learning resources:

- Student book
- Illustrate of the of venipuncture
- Movies and video showing how to perform the technique of venipuncture on YouTube.

c. Introduction

In this lesson students will be taught the technique of venipuncture

d. Learning activity 3.3

Guidance

To facilitate students to do the activity 3.5, pair students in group of 2 students.

- Ask them to attempt the learning activity 3.5 where each will perform the technique of venipuncture
- Move around groups guiding and facilitating them to do the technique of venipuncture. Respond to their question.
- Request like 2 groups to respond to the theoretical questions and ask the rest to complement their colleagues.

Answer to learning activity 3.3

Answer to question 1.

The person in gloved hands is performing venipuncture

Answer to question 2.

Materials being used in the image are: syringe, gloves, and needle

3.6. Summary of the unit

The common laboratory investigation an associate nurse should be able to perform include; **Malaria rapid diagnostic tests (RDTs)**, which assist in the diagnosis of malaria by detecting evidence of malaria parasites (antigens) in human blood. These tests require a drop of peripheral blood, normally collected from a finger or heel prick. Visual read-outs are available typically within 20 minutes or less. When the device shows the appearance of a line near T and C means that there evidence of plasmodium parasites (Positive). Line near C and no line near T means that there is no evidence of parasites (Negative). Line near T and or no line means that the results is invalid.

Glycemia test, a test used to measure the level of glucose within the blood. A device called glucometer and its strip will be used to read out the glucose level circulating in the bloodstream found after pricking the skin site in a sterile way with a needle called lancet. If the level of sugar in the blood is high it will be referred as hyperglycemia, and hypoglycemia for low level. Glycemia can be measured in mg/dl or in mmol/l. the normal threshold for fasting glucose level in blood is between 70 to 110 mg/dl while for random glucose level is around 126 md/dl or a bit lower.

Urine tests sometime referred to as urinalysis are laboratory investigation done to examine the physical and chemical properties of urine and its microscopic appearance to aid in medical diagnosis of different health conditions. The associate nurse should be able to test glucose and albumin in urine. **Glucosuria** test which is the measurement of glucose level in urine results from either an elevated plasma glucose or an impaired renal glucose absorptive capacity. While **albuminuria** is a sign of kidney disease showing that the patient has too much albumin in the urine. Albumin is a protein found in the blood. A healthy kidney doesn't let albumin pass from the blood into the urine. To measure glucose and albumin in urine; dipsticks are dipped in the urine container and their reagent square (pad) color get compared to the reference color printed on the strips container which shown different glucose and albumin measurement.

3.7 Additional information

Below is additional information for common laboratory investigation

3.7.1 Rapid diagnostic test for malaria

RDT test packets: At least 2 per participant plus some extras to have in reserve in case some participants need additional practice. You will also need 1 or 2 packets to use yourself during the orientation.

Clean gloves: At least 2 pairs per participant, 2 pairs each for you and anyone who will be assisting you during the training, and some extras to keep in reserve. It is not necessary to use sterile gloves to prepare an RDT.

Alcohol swabs: 2 per participant, 2 for you to use during demonstrations, and several extras to keep in reserve. Alcohol swabs are often included in each box of RDTs. If alcohol swabs are not available, it is also possible to use cotton wool and bottles of alcohol or another appropriate disinfectant, but pre-packaged swabs are easier to handle and more convenient.

Sterile disposable lancets: One lancet per RDT and additional ones for demonstration and failed attempts. These are also often included in each box of RDTs or may be obtained separately.

Sharps disposal bins: For disposing of the blood lancets and blood-transfer devices immediately after using them.

Dustbin: For waste containers for all participants to dispose of their gloves, test cassettes, wrappers, swabs, and other non-sharps material.

3.7. 2 Urine test.

Before immersing dipsticks into the specimen container, it is recommended to assess:

Urine color:

- Straw-colored urine: this is the normal color of urine in a healthy, hydrated individual.
- Dark concentrated urine: suggests the individual is dehydrated.
- Red urine: can be caused by the presence of blood in the urine (macroscopic hematuria), porphyria, drugs such as rifampicin and certain foods (e.g. beetroot).
- Brown urine: can be caused by the presence of bile pigments (e.g. jaundice) or myoglobin (e.g. rhabdomyolysis) in the urine. Some antimalarial medication, such as chloroquine, also cause brown discolouration of the urine.

Clarity of the urine:

- Clear urine: this is normal for healthy, well-hydrated individuals.
- Cloudy urine with sediment: may indicate urinary tract infection, renal stones, high protein content (e.g. nephrotic syndrome).
- Frothy urine: typically associated with significant proteinuria (e.g. nephrotic syndrome).

Urine's odor:

- Offensive odor: suggestive of urinary tract infection.
- Sweet odor: suggestive of glycosuria (e.g. diabetes mellitus).

An associate nurse should be able to interpret results for glucose and albumin but as the teacher note that the dipsticks can assess more than that.

Full Interpretation of the dipstick results

Glucose:

Glucose is a water-soluble sugar molecule and its presence in the urine is known as glycosuria:

- Time at which the reagent square should be interpreted: 30 seconds
- The absence of glucose in the urine is normal.
- Causes of glycosuria include diabetes mellitus, renal tubular disease and some diabetic medications.

Bilirubin:

Conjugated bilirubin is a water-soluble yellow pigment:

- Time at which the reagent square should be interpreted: 30 seconds
- The absence of bilirubin in the urine is normal.
- The presence of bilirubin in the urine suggests increased serum levels of conjugated bilirubin, which can occur in conditions such as biliary obstruction (e.g. pancreatic cancer).

Ketones:

Ketones are a breakdown product of fatty acid metabolism:

- Time at which the reagent square should be interpreted: 40 seconds
- The absence of ketones in the urine is normal.
- The presence of ketones in the urine suggests increased fatty acid metabolism, which occurs during starvation and in conditions such as diabetic ketoacidosis.

PH:

The pH reagent square represents the acidity of the urine:

- Normal range: 4.5 – 8
- Time at which the reagent square should be interpreted: 60 seconds
- Causes of low urinary pH include starvation, diabetic ketoacidosis and other conditions that cause metabolic acidosis (e.g. sepsis).
- Causes of raised urinary pH include urinary tract infection, conditions that cause metabolic alkalosis (e.g. vomiting) and medications (e.g. diuretics).

Blood:

The blood reagent square indicates the amount of red blood cells, hemoglobin and myoglobin in the urine:

- Time at which the reagent square should be interpreted: 60 seconds
- The absence of red blood cells, haemoglobin and myoglobin in the urine is normal.
- The presence of red blood cells, haemoglobin and myoglobin in the urine may indicate urinary tract infection, renal stones, injury to the urinary tract, myoglobinuria (rhabdomyolysis), nephritic syndrome and malignancy of the urinary tract.

Protein:

The protein reagent square indicates the level of protein present in the urine (proteinuria):

- Time at which the reagent square should be interpreted: 60 seconds
- The absence of protein in the urine is normal.
- Causes of proteinuria include nephrotic syndrome and chronic kidney disease.

Nitrites:

Nitrites are a breakdown product of gram-negative organisms such as E.Coli:

- Time at which the reagent square should be interpreted: 60 seconds
- The absence of nitrites in the urine is normal.
- The presence of nitrites in the urine is suggestive of urinary tract infection.

Urobilinogen:

Urobilinogen is a byproduct of bilirubin breakdown in the intestine and it is normally excreted in the urine:

- Normal range: 0.2 – 1.0 mg/dL
- Time at which the reagent square should be interpreted: 60 seconds
- The presence of increased levels of urobilinogen in the urine can be caused by haemolysis (e.g. haemolytic anaemia, malaria).
- Low levels of urobilinogen can be caused by biliary obstruction.

Leukocyte esterase:

Leukocyte esterase is an enzyme produced by neutrophils and therefore, when positive, it indicates the presence of white cells in the urine:

- Time at which the reagent square should be interpreted: 2 minutes
- A negative leukocyte esterase test is normal.
- Causes of a positive leukocyte esterase include urinary tract infection and any condition that could result in haematuria.

While interpreting the results for urine test

- Note that the presence glucose in urine (glycosuria) is suggestive of **diabetes mellitus** and would warrant further investigation with capillary blood glucose.
- **Raised specific gravity** and **proteinuria** is suggestive of **nephrotic syndrome**. Further investigations would include **urea and electrolytes** to assess renal function as well as **microscopy** and **culture** to rule out urinary tract infection

3.7.3 Glycemia test

Health care provider and patient should communicate the way forward for helping the patient for quickly recovery. Introduce yourself and explain the procedure to the patient. The patient may be used to perform this procedure on themselves, however it is important to make sure of this and that you have their consent.

Assessment of skin that is intact at the puncture site minimizes the risk of infection and promotes healing. Usually fingers are used for glucose testing.

For material preparation: Having equipment prepared and available promotes organization, safety, and timeliness.

Hand hygiene prevents the transfer of microorganisms, washing hand reduces transmission of microorganisms and increases blood flow to the puncture site. Alcohol use on the skin over time may cause the skin to dry out and become more fragile. The area to be punctured should be in a dependent position in order to increase blood flow to the area. Do not massage finger site because massaging the finger may introduce excess tissue fluid and hemolyze the specimen.

Health care provider must select appropriate puncture in collaboration with the patient preference. Before taking sample clean the site and allow it to dry. Note that any sugar on the patient's site for puncture from a sweet/candy will give a falsely elevated reading. The timing and specific instructions for measurement will vary between blood glucose meters. Be sure to read the instructions carefully to ensure accurate readings.

After withdrawing sample apply pressure, or ask patient to apply pressure, to the puncture site using a 2× 2 gauze pad or clean tissue this will stop the bleeding at the site.

At the end remove non-sterile gloves and place them in the appropriate receptacle: This reduces transmission of microorganisms.

Guidance for the Skills laboratory use

- **For self-learning in the simulation laboratory**
 - Prepare 3 stations in the simulation laboratory, each technique with its own station. Avail all equipment in each station. Pair students in groups of two.

- Inform the students to go in the skills laboratory and perform all techniques of basic laboratory investigations as they learn it on each other.
- As a teacher be around guiding them to perform the selected techniques.
- **For Objective Structured Clinical Exam (OSCE)**
 - Arrange 3 stations in the skills lab. Station 1 will be for RDT for malaria, station 2 will be for urine test (glucose and albumin) and station 3 will be for glycaemia test.
 - Request 3 facilitators (teachers) to help you out in this activity.
 - Arrange check list for each technique and dispose them in their respective station.
 - Each teacher will be in one station, using designed checklist to assign marks to each student rotating in that station.
 - Each student should rotate in each station to be assessed if he/she has acquired skills of common laboratory investigation
 - Compile marks for each station.
 - Guide Students who failed to pass the OSCE, to do the remedial activities

3.8 Answers to end unit assessment

- | | |
|------|-------|
| 1. B | 6. B |
| 2. C | 7. C |
| 3. B | 8. B |
| 4. A | 9. A |
| 5. A | 10. B |

11. Potential Complications

Hematoma: Accumulation of blood outside the vein; manage by applying pressure and ice.

Phlebitis: Inflammation of the vein; avoid future punctures in the affected area.

Infection: Redness, swelling, or discharge at the puncture site; report and treat as necessary.

Nerve Injury: Pain or numbness; ensure correct needle placement and avoid nearby nerves.

- 12. b
- 13. a
- 14. d

15. All RDTs need a buffer to lyse the blood and to allow capillary flow along the nitrocellulose strip. We use buffer to start the reaction, the buffer lyses the red blood cells to release the parasite. That's why we start timing after adding buffer. Normally, health care workers should wait around 15 to 20 minutes after adding buffer to read results of RDT for malaria.

16. Test A = Invalid

Test B = Invalid

Test C = Positive

Test D = Negative

17. a. The stepwise approach to perform the technique of glycemia is done as follow:

Hand washing
Identification of the patient
Introduce yourself to the patient including the name and your role
Briefly explain the procedure involved using patient friendly language
Gain consent to perform the glycemia test
Identify the area for collecting the sample
Prepare equipment's
Wash the hands and put on gloves.
Choose the site for the blood sample: usually the side of a finger, but the arm or thigh may be used (change the site used if frequent measurements are needed)
Use an alcohol swab to clean the site and let the alcohol dry.
Load a test strip into the glucose monitor
With a single use lancet prick the site for sample collection. Don't go deeper than necessary
Dispose the lancet into the safety box
Apply the blood to the testing strip in the correct way: some strips need the blood drop to be over the whole of the test pad and some suck up the blood directly from the site of the bleeding
Read and record the result, reporting and/or responding to abnormal readings.
Inform glycemia results to the patient
Thank the patient for his/her collaboration
Dispose of all used equipment safely
Wash the hands

b. After the test you found that his glycemia is 198 md/d. bearing in mind that the patient came to drink 2 bottle of fanta. This reading means that the exam done was random glucose check. The reading is still in normal range but it is **prediabetes**.

18. The cause for albumin to be found in urine is that the kidney is damaged because a healthy kidneys remove extra fluid and waste from the blood and transform it into urine. Healthy kidneys do not remove proteins and other important nutrients, which pass through and return to the blood. But when the kidneys are damaged, they may let this protein leak into the urine.

3.9 Additional activities

3.9.1 Remedial activities

Multiple choice questions

1. What does the term glycosuria refer to?
- Diabetes mellitus
 - Glycogen in urine
 - Glucose in urine
 - Glycemia level

Answer: C

2. Which of the following material for rapid diagnostic test for malaria is not mandatory while screening malaria?
- Capillary tube
 - Lancet,
 - Sterile gloves
 - Safety box

Answer: C

3. Which of the following is a cause of glucose in urine
- Glomerulonephritis
 - Urinary tract infection
 - Albuminuria
 - Glycosuria

Answer: B

4. What does increased urine specific indicate?
- Excessive concentrated urine
 - Excessive dilute urine
 - Watery urine
 - Bloody urine

Answer: A

5. Match the item in column X with the appropriate statement in column B

Column X	Column Y
1. Buffer	A. They are a faster, safer, and easier way to take blood samples. The serrated shape assures a firm finger grip. The sharp, strong point gives a relatively painless puncture
2. Glucometer	B. All rapid diagnostic tests need it to lyse the blood and to allow capillary flow along the nitrocellulose strip
3. Albuminuria	C. It is a handheld device that can scan a small blood sample to determine the glucose level
4. Disposable lancets	D. It is a type of protein that is normally found in the blood and when there is kidney damage it is founded in urine
5. Glucosuria	E. Is a test done to measure the amount of sugar (glucose) in a urine sample

Answers to matching question:

1=B; 2=C; 3=D; 4=A ; 5=E

Short answer question

1. What is a rapid urine test?

Answer:

A rapid urine test is **the quickest way to test urine**. This involves dipping a test strip with small square colored fields on it into the urine sample for a few seconds.

2. In laboratory investigation, list at least two elements that you cannot find in normal urine

Answer: Glucose and protein

3. How long do rapid urine test takes?

Answer:

The test can often be read in as little as 60 to 120 seconds after dipping it in the urine container.

- For glycosuria it can take 60 second to yield results.
- For albuminuria, 30 second is enough

3.9.2 Consolidation activities

1. What are the principles of urine test?

Answer:

- 1) Routine Urinalysis consists of both physical and chemical analyses to assist physicians in the diagnosis and treatment of renal and urinary tract diseases and in the detection of metabolic or systemic disease processes not directly related to the kidney.
- 2) The macroscopic examination of urine includes physical appearance, such as color, character and clarity.
- 3) A qualitative chemical analysis of the urine is performed by using a multi-parameter test strip that measure pH, protein, glucose, ketones, bilirubin, urobilinogen, nitrite, blood, leukocyte esterase, and specific gravity. The test strips are dipped in the urine and read visually according to the color comparison chart printed on the side of the container at prescribed time intervals.

2. Practical activity: Prepare the six stations in the skills laboratory and request the students to complete the tasks within those stations as follows:

Answer:

1. **Station 1:** Ask students to prepare materials for Rapid diagnostic test.
2. **Station 2:** Request students to perform the technique of rapid diagnostic test for malaria.
3. **Station 3:** Ask students to prepare all materials for urine test (albumin and glucose)
4. **Station 4:** Request students to perform the technique of glucosuria and albuminuria
5. **Station 5:** Ask them to prepare materials for glycemia
6. **Station 6:** Request student to perform the technique of glycemia

To ensure that students have acquired hand on skills well to perform requested techniques of common laboratory investigation. use the check list of each technique as described in lesson 2, 3 and 4 to score them where each activity will be assessed if it was done or not.

3.9.3 Extended activities

1. What are the characteristics of urine specimen to be analyzed?

Answer:

- 1) We use fresh well-mixed urine collected by clean-catch method into a sterile container.
- 2) The specimen should be unpreserved and uncentrifuged.
- 3) All urine specimens should reach the laboratory **within one (1) hour** after collection and be properly labeled.
- 4) Urine specimens should be tested within two (2) hours after collection. If urine cannot be tested **within two (2) hours**, it may be stored for up to four **(4) hours at 2 to 8°C**. (The specimen must be brought to room temperature before testing.)

2. What are the characteristics of unsatisfactory urine sample for testing?

Answer

- Specimens received over two hours after collection.
- Mislabeled samples.
- Improperly collected samples. For example, urine samples with preservatives, specimens collected in non-sterile containers, or specimens collected in containers with soap or detergent residues will not be accepted.
- Quantity Not Sufficient. The recommended minimum volume is 12 m.
- In the event that an unacceptable sample is received, another sample must be requested.

3. Describe the importance of RDT for malaria in malaria endemic region.

Answer

- Rapid diagnostic tests (RDTs) offer a useful alternative to microscopy in situations where reliable microscopic diagnosis is not available. This is the case in most of the malaria-endemic world.
- Malaria RDTs are being widely used in malaria-endemic countries, but the use of an RDT does not completely eliminate the need for malaria microscopy.
- Because RDTs may not be able to detect some infections with lower numbers of malaria parasites in the patient's blood and the less common species of malaria, *P. ovale* and *P. malariae*, in the malaria-endemic world,
- Patients with negative RDT results can be followed up by microscopy where available to confirm the result.
- Patients with positive RDT results who are not responding to initial antimalarial treatment should be evaluated for other causes of their symptoms to determine whether the treatment was appropriate and to examine parasites in the blood by microscopy to determine the possibility of drug resistance.

4.1. Key Unit Competence:

Administer correctly drugs through parenteral routes.

4.2 Prerequisites (knowledge, skills, attitudes and values)

To be successful in this unit, the learners should have been taught the biology subject and acquired knowledge related to the anatomical landmark, structure and functioning of the musculoskeletal, circulatory and nervous systems. In addition, in order to effectively succeed and develop clinical skills in the unit of drug administration through parenteral routes, the learners should have been taught first the vital signs and parameters, nosocomial infection and prevention, pharmacology and doses calculation. As a teacher, you will ask some questions to learners related to these prerequisites before starting the lesson. As the learners will be practicing the acquired skills on human being, learners should have been taught the Ethics and Professional code of conduct in order to be aware of the ethical principles and the code of professional conduct that will guide them during their daily nursing practice.

4.3 Cross-cutting issues to be addressed

a. Inclusive education

This lesson will be done mostly via discussions within groups. The teacher will encourage students to verbalize what they know and what they think should be important while administer medication. It can be an issue to students with hearing impairment to progress with others or students with limbs disorders who usually face challenges for displacement. However, the teacher can assist the students with these special educational needs in the following ways:

- The teacher will encourage all students to support colleagues with locomotor impairment to reach their groups
- Both teacher and students will be encouraged to speak loudly and use gestures to support learners with hearing problems.
- Every important point is written on the chalkboard or flip charts or printed depending on available resources. The written points help students with hearing impairment to understand what is spoken.
- Help students with hearing impairment sit in front and use loud voice during teaching and presentations
- Advocate for hearing aids for concerned students

b. Gender education

Inspire active participation of boys and girls in activities, not only boys. Make sure that all learners are actively involved in all learning activities. Drug administration in a professional manner is done in the same way in males and in females, reason why males and females should have equal rights to learn and practice the procedures of drug administration.

c. Environment and sustainability

As a facilitator, emphasize to the learners that environment must be sustainably protected and kept safe. Medical waste including used needles are hazardous and may cause very serious injuries and be a source of infectious contamination. This is the reason why health care providers including associate nurses have to be responsible for appropriate waste disposal to ensure a clean and safe working environment.

d. Peace and value education

This lesson will involve student- teacher and student-student respectful interaction. Students will be encouraged to accommodate different ideas, to exchange speeches and to develop flexibility in order to focus on the important points of the lesson.

4.4 Guidance on the introductory activity

Before starting teaching the first lesson of this unit titled “Drugs administration through parenteral routes”, engage learners in the introductory activity. This activity aims to relate the unit with learners’ daily life experience to raise their curiosity and discovery and draw their attention while undertaking the next unit’s lessons.

Teacher’s activities:

- Print the page with images on introductory activity under unit 4. Drugs administration through parenteral routes or prepare a presentation slide of this introductory activity. The questions and the unit title must not appear on the printed copies or on the presentation slide. Use only images.
- Distribute the printed copies of the introductory activity to all learners or use a projector and present the images of the introductory activity on the white screen.
- Ask each learner to carefully observe the images on the printed copies or on the white screen and allow learners one minute to think and make reflection about the images.
- Then ask questions from the students’ book under introductory activity to the learners. Ask the first question and get the learners’ views before moving to the second question and so forth.

- Don't judge any learner's response instead motivate learners and make the class more active by involving every learner in the introductory activity.
- End the introductory activity by contextualizing the learners' responses and relate them to the unit to be taught to the learners

Expected answers to the introductory activity 4.

- 1) On image A, I see a needle inserted vertically in the muscle at 90-degree angle.

On image B, I see a needle inserted obliquely in the subcutaneous tissue at 45-degree angle.

On image C, I see a needle inserted obliquely in the blood vessel(vein) at almost 25-degree angle

On image D, I see a needle inserted obliquely into the dermis, just below the epidermis at almost 10-15-degree angle.

- 2) There is a variation of angles from image A to image D. Varying the angle helps the needle get inserted in the expected site (At 90-degree angle to reach the muscle, 45 degree angle to reach the sub-cutaneous tissue, at 25-degree angle to get access to the vein and 10 to 15-degree angle to get access to the intradermal).
- 3) Images A, B, C and D represent the parenteral routes of drugs administration (Intramuscular (Image A), Sub-cutaneous (Image B), Intravenous (Image C) and Intradermal (Image D)).

4.5 List of lessons/subheadings (including assessment)

#	Lesson title	Learning objectives	Number of periods
1	Administering an Intramuscular (IM) injection	<p>Demonstrate theoretical understanding on IM route of drug administration, its indications and contra-indications</p> <p>Explain the advantages and disadvantages of IM drug administration route</p> <p>Perform the technique of IM drug administration</p> <p>Demonstrate safety precautions to prevent injuries</p> <p>Respect patient's privacy during nursing care provision</p> <p>Demonstrate self-control while caring for patients</p>	2
2	Administering a Subcutaneous (SC) injection	<p>Demonstrate theoretical understanding on SC route of drug administration, its indications and contra-indications</p> <p>Explain the advantages and disadvantages of SC drug administration route</p> <p>Carry out the technique of SC drug administration</p> <p>Demonstrate safety precautions to prevent injuries</p> <p>Respect patient's privacy during nursing care provision</p> <p>Demonstrate empathy and respect of client during the nursing care practice</p>	2

3	Administering an Intradermal (ID) injection	<p>Demonstrate the theoretical understanding of ID route of drug administration, its indications and contra-indications</p> <p>Explain the advantages and disadvantages of ID drug administration route</p> <p>Perform the technique of ID drug administration</p> <p>Demonstrate safety precautions to prevent injuries</p> <p>Demonstrate self-control while administering ID injection</p> <p>Demonstrate communication and collaboration skills towards patients, care givers and staff</p>	2
4	Intravenous (IV) drugs administration	<p>Demonstrate theoretical understanding on IV route of drug administration, its indications and contra-indications</p> <p>Explain the advantages and disadvantages of IV drug administration route</p> <p>Perform the techniques of IV drug administration</p> <p>Demonstrate safety precautions to prevent injuries</p> <p>Respect patient's privacy during nursing care provision</p> <p>Demonstrate self-control while administering IV medications.</p> <p>Demonstrate communication and collaboration skills towards patients, care givers and staff during IV medications administration</p>	2

5	Skills lab(Self-practice)	<p>Administer correctly the medications via parenteral routes (IM, SC, ID, IV)</p> <p>Demonstrate empathy and respect of client during the administration of medications (IM, SC, ID, IV)</p> <p>Demonstrate safety precautions to prevent injuries while administering medications via parenteral routes.</p> <p>Demonstrate communication and collaboration skills towards patients, caregivers and staff during medications administration through parenteral routes (IM, SC, ID and IV).</p> <p>Demonstrate self-control while administering medications via parenteral routes (IM, SC, ID and IV)</p>	10
6	Assessment (End unit assessment and OSCE)	Administer correctly drugs through parenteral routes	4

Lesson One. Administering an Intramuscular (IM) injection

This is the first lesson of Unit 4: “Drugs administration through parenteral routes”. It will cover injection given into the muscle.

a. Learning objectives:

At the end of this lesson, learner should be able to:

- Demonstrate theoretical understanding on IM route of drug administration, its indications and contra-indications
- Explain the advantages and disadvantages of IM drug administration route
- Perform the technique of IM drug administration
- Demonstrate safety precautions to prevent injuries
- Respect patient’s privacy during nursing care provision
- Demonstrate self-control while caring for patients

b. Teaching resources

Student book, fundamentals of nursing books, computer (laptop), projector, white screen, figures showing the intramuscular route of medication administration,

checklists, Manikins specific for intramuscular injection, syringes, needles, swabs, disinfectant, kidney dish, plate, safety box, injectable medications. In addition, learners should have prior knowledge related to pharmacology and drug doses calculation.

c. Prerequisites/Revision/Introduction

Students will learn better the techniques of administering medication intramuscularly using syringes and needle, if they have prior knowledge and skills on ethic and professional code of conduct, nosocomial infection control and prevention and anatomy and physiology of human musculoskeletal, circulatory and nervous systems.

4. Learning activity 4.1

Guidance

- Teacher will bring printed copies showing images of intramuscular injection to the students
- Ask the students to sit in groups of 5 to observe the images and discuss on the related questions.
- Each group will delegate a presenter to expose their responses
- After each presentation, they will create an open discussion for questions, comments and teacher's clarification will be added.
- While student presentation and discussion, every student will take note.

Answers to leaning activity 4.1.

- 1) The person with gloved hands is doing an intramuscular injection on the gluteal muscle of a patient
- 2) The relationship between the image A and B is that both of them are showing intramuscular injections. Their differences are based on that the image A, the nurse just start injecting whereas on the image B, the needle already reached the muscle where the medication is supposed to be injected.
- 3) The materials on the image A are: gloves, needle and syringe, disposable protection

Answers to self -assessment 4.1.

- 1) The advantages and disadvantages of intramuscular injection:

Advantages

- Rapid and uniform absorption of the drug, especially those of the aqueous solutions
- Rapid onset of the action compared to that of the oral and the subcutaneous routes
- IM injection avoids the first-pass metabolism
- It also avoids the gastric factors governing the drug absorption
- Has efficacy and potency comparable to that of the intravenous drug delivery system.
- Highly efficacious in emergency scenarios such as acute psychosis and status epilepticus
- Depot injections allow slow, sustained, and prolonged action
- A large volume of the drug can be administered compared to that of the subcutaneous route

Disadvantages

- Expert and a trained person is required for administering the drug by IM route
- The absorption of the drug is determined by the bulk of the muscle and its vascularity
- The onset and duration of the action of the drug is not adjustable
- In case of inadvertent scenarios such as anaphylaxis or cardiac arrest resuscitation can't be done via IM.
- IM injection at the appropriate landmarks may be difficult in a child as well as in patients requiring physical restraint
- Inadvertent injection in the subcutaneous plane of the fascia can lead to delayed action of the drug
- Painful procedure
- Suspensions, as well as oily drugs, cannot be administered
- Can lead to anxiety in the patient, especially in children
- Self-administration of the drug can be difficult
- The precipitation of the drug following faster absorption of the solvent may lead to delayed and prolonged action of the drug
- Unintended prolonged sequelae following delayed drug release from the muscular compartment
- Need for temporary immobilization of the patients, especially in cases with children

- 2) We have four common sites of IM injection: deltoid muscle, ventrogluteal, dorsogluteal and vastus lateralis on both left and right part of the body.
- 3) Complications of intramuscular injection involve muscle fibrosis and contracture, abscess at the injection site, gangrene, nerve injury –the sciatic nerve in gluteal injection, the femoral nerve in vastus lateralis injection, the superior gluteal nerve in dorso gluteal injection and radial nerve in deltoid injection, periostitis, transmission of HIV, hepatitis virus when sharing the needle and persistent pain at the site of injection.
- 4) The associate nurse will propose the IM route to administer medication to Mr. Kalisa who is not responding to both oral and rectal routes. In this case, IM will be recommended to obtain rapid response or in case of emergency.

e. Skills lab

The teacher will take students to the skills lab show them the materials used in IM medication administration and ask them to inject medication in based on IM principles on a manikin.

TECHNIQUE: INTRAMUSCULAR (IM) MEDICATION ADMINISTRATION

STUDENT/NURSE PREPARATION

Should appear professional (in full and clean uniform) with ID Card

Hair tied back

Remove watch, jewels, and Rings

Wear close shoes

Hand washing

PATIENT PREPARATION

Identification of the patient

Self-presentation to the patient

Physical and psychological patient preparation

Assess levels of comprehension and collaboration of the patient

Adjust the environment of the patient as necessary.

Check drug: name of the drug, name of the patient, dose, method and hour of administration, expiry date

Explain the procedure and purpose to the patient

Check for any drug allergies and ensure that there is no skin tenderness.

Understand the therapeutic indications of the drug, mode of action and its side effects.

Cleanliness or condition of the bed and surrounding environment

EQUIPMENT

Disposable gloves, prescribed medication and dose, sterile syringe and needle of appropriate size and gauge, manikin with IM sites for injection, antimicrobial swab, disposable container, kidney tray, ampoule cutter if needed, pen, medication administration record, sterile dry gauze.

IMPLEMENTATION

Perform hand hygiene and put on gloves and or other PPE

Close curtains around bed and close the door to the room, if possible

Verify the rights of drug administration.

Prepare medications for one patient at a time.

Check expiration dates and perform calculations, if necessary.

Prepare the medication from an ampule or vial

Place the client in an appropriate position to expose the site.

Identify the appropriate landmarks for the site chosen.

Cleanse the area around the injection site with an antimicrobial swab.

Use a firm, circular motion while moving outward from the injection site within 30 seconds

Remove the needle cap by pulling it straight off. Expel any air bubbles from the syringe. Hold the syringe in your dominant hand between the thumb and forefinger.

Pull the skin down or to one side with nondominant hand.

Quickly insert the needle into the tissue so that the needle is perpendicular to the patient's body. This should ensure that it is given using an angle of injection between 72 and 90 degrees.

Aspirate by pulling back on the plunger, and observe for blood.

If blood appears, remove the needle and discard; If blood does not appear, inject the medication slowly.

Apply gentle pressure at the site with a dry, sterile gauze; do not massage the injection site. Swab using gentle pressure.

Discard the needle and syringe in a sharp's container; do not recap the needle.

FINISHING

Patient

Position the patient comfortably and appropriately

Arrange personal effects and objects of the patient within his range

Thank the patient for his collaboration.

Material

Put material in order.
Nurse
Education/ Care-related guidance.
Wash hands.
Make a verbal or written report of Care provided and sign
Check the patient within 30 minutes after giving medication

Lesson Two. Administering a Subcutaneous (SC) injection

This is the second lesson of the unit of Drugs administration through parenteral routes. It will cover injection given in the subcutaneous tissue.

a. Learning objectives

At the end of this lesson, learner should be able to:

- Demonstrate theoretical understanding on SC route of drug administration, its indications and contra-indications
- Explain the advantages and disadvantages of SC drug administration route
- Carry out the technique of SC drug administration
- Demonstrate safety precautions to prevent injuries while administering SC injection
- Respect patient's privacy during nursing care provision
- Demonstrate empathy and respect of client during the nursing care practice

b. Teaching resources

Student book, Fundamentals of Nursing books, Computer (Laptop), projector, white screen, Figures showing the sub-cutaneous route of Medication administration, checklists, Manikins specific for sub-cutaneous injection, syringes, needles, swabs, disinfectant, kidney dish, plate, safety box, injectable medications.

c. Prerequisites/Revision/Introduction

To facilitate better this lesson, students must have basic knowledge and skills on ethic and professional code of conduct, nosocomial infection control and prevention and anatomy and physiology of human skin layers. In addition, learners should have prior knowledge related to Pharmacology and drug doses calculation.

d. Learning activity 4.2

Guidance

- Teacher will bring printed copies showing images of subcutaneous injection
- Ask the students to sit in groups of 5 to observe the images and discuss on the related questions.

- Each group will delegate a presenter to expose their responses to the whole class
- Allow other classmates to ask questions for those who have presented; if they are not able to respond properly, teacher will help them to clarify the answers.
- Summarize and conclude the lesson.
- During students' presentation and discussion, every student will take note

Answers to learning activity 4.2

- 1) On the image A, the gloved hands nurse is injecting a needle in subcutaneous following an angle of 45 degrees.
- 2) 45 degrees help to reach the subcutaneous area
- 3) The SC injection serves to provide complete drug absorption. It is less invasive than intramuscular as it ends up in the subcutaneous tissues. It is also possible to train the patient for self-administration especially if he or she is taking lifelong medication. E.g: insulin. SC route has some disadvantages such expensive than oral route, involves some degree of education and materials, it is slower than intramuscular injection. The procedure of SC injection breaks the skin barrier, cause pain, can irritate tissues and may be a source of anxiety. SC drug administration is applicable for limited quantities of medications not exceeding 1,5 to 2ml, the greater amount will cause pain

Answers to Self-assessment 4.2

- 1) a) The common sites of subcutaneous injection are the back of the upper arms, abdomen (5cm away from the umbilicus), anterior thighs, the area of the back just below the scapulae and the upper buttocks.
b) The rationale for injecting at 45 degrees in SC is to make sure you localize subcutaneous tissue
- 2) This patient with generalized edema is not allowed to receive the medication in such way, because the edema is the one among the contra indication for subcutaneous tissue injection.

e. Skills lab

The teacher will go with students in the skills lab, show them the materials used for SC injection, let them explore those materials and allow them to inject a drug in SC route. The teacher will correct their confusion and offer support to effectively perform SC injection.

TECHNIQUE: SUBCUTANEOUS (SC) MEDICATION ADMINISTRATION

STUDENT/NURSE PREPARATION

Should appear professional (in full and clean uniform) with ID Card

Hair tied back

Remove watch, jewels, and Rings

Wear close shoes

Hand washing

PATIENT PREPARATION

Identification of the patient

Self-presentation to the patient and ask consent

Physical and psychological patient preparation

Assess levels of comprehension and collaboration of the patient

Provide necessary privacy

Check drug: name of the drug, name of the patient, dose, method and hour of administration, expiry date

Explain the procedure and purpose to the patient

Check for any drug allergies and ensure that there is no skin tenderness.

Understand the therapeutic indications of the drug, mode of action and its side effects.

Cleanliness or condition of the bed and surrounding environment

EQUIPMENT

Disposable gloves, prescribed medication and dose, sterile syringe and needle of appropriate size and gauge, manikin with muscles to accommodate SC injection, antimicrobial swab, disposable container, kidney dish, ampoule cutter if needed, pen, medication administration record, sterile dry gauze.

IMPLEMENTATION

Perform hand hygiene and put on gloves and or other PPE

Close curtains around bed and close the door to the room, if possible

Verify the rights of drug administration.

Prepare medications for one patient at a time.

Check expiration dates and perform calculations, if necessary.

Prepare the medication from an ampule or vial; refer to withdrawing Procedure (vial or ampoule)

Place the client in an appropriate position to expose the site.

Identify the appropriate landmarks for the site chosen.
Cleanse the area around the injection site with an antimicrobial swab.
Use a firm, circular motion while moving outward from the injection site within 30 seconds
Remove the needle cap by pulling it straight off. Expel any air bubbles from the syringe. Hold the syringe in your dominant hand between the thumb and forefinger.
Grasp skinfold to assure the needle is injected in SC tissue
Introduce the needle with one quick gesture within an angle of 45°, bevel oriented upwards, release pinching of the skin once the needle is introduced.
Aspirate to check if a blood vessel has been entered.
Inject smoothly and slowly.
Withdraw the needle. Apply a dry swab on the injection site
Discard the needle in a sharp container
FINISHING
Patient
Position the patient comfortably and appropriately.
Arrange personal effects and objects of the patient within reach.
Thank the patient for his collaboration.
Material
Arrange materials in order
Nurse
Education/ Care-related guidance.
Wash hands.
Make a verbal or written report of Care provided and sign
Evaluate the effectiveness of the drug after a timeframe of that drug

Lesson Three. Administering an Intradermal (ID) injection

This is the third lesson of the unit of Drugs administration through parenteral route. It will cover injection given into the dermis space between the epidermis and hypodermis.

a. Learning objectives

At the end of this lesson, learner should be able to:

- Demonstrate the theoretical understanding of ID route of drug administration, its indications and contra-indications
- Explain the advantages and disadvantages of ID drug administration route

- Perform the technique of ID drug administration
- Demonstrate safety precautions to prevent injuries
- Demonstrate self-control while administering ID injection
- Demonstrate communication and collaboration skills towards patients, care givers and staff

b. Teaching resources

Student book, fundamentals of nursing books, computer (laptop), projector, white screen, figures showing the intradermal route of medication administration, checklists, manikins specific for intradermal injection, syringes, needles, swabs, disinfectant, kidney dish, plate, safety box, injectable medications.

c. Prerequisites/Revision/Introduction

To facilitate better this lesson, students must have basic knowledge and skills on ethic and professional code of conduct, nosocomial infection control and prevention and anatomy and physiology of human skin layers. In addition, learners should have prior knowledge related to pharmacology and drug doses calculation.

d. Learning activity 4.3.

Guidance

- The teacher will bring printed copies showing images of subcutaneous injection
- Ask the students to sit in groups of 5 to observe the images and discuss on the related questions.
- Each group will delegate a presenter to present their responses
- After each presentation, students will create an open discussion for questions and comments.
- Teacher will allow to address questions toward presenters, if unable to respond the teacher will intervene by more clarification and appropriate responses.
- During students' presentation and discussion, every student will take note
- Summarize and conclude the lesson.

Answers to learning activity 4.3

- 1) Risk on the site of injection of the picture B, there is formation of a bleb (blister), which is a sign of successful ID injection.
- 2) The relationship between image A and B is based on 10-15 degree used to inject medication to a human body and to an anatomical illustration
- 3) The angle of 15 degrees is applied to be able to inject the medication within the layers of the skin.

Answers to Self-assessment 4.3.

- 1) Intradermal injections should be administered at 10-15 degree angle
- 2) A successful ID injection is characterized by formation of bleb or small blister at the site of injection.
- 3) Nurse M. will use ID route to administer a small dose of penicillin to test for allergy. The maximum dose in intradermal route is 0.5ml.

e. Skills lab

The teacher will bring students in the skills lab, explore the instruments used in ID route. The teacher will allow first to practice imitating how the needle enters the skin as illustrated in the student book. The teacher will be circulating in all the groups observing their practice and facilitate them to effectively inject medication under the skin.

TECHNIQUE: INTRADERMAL (ID) MEDICATION ADMINISTRATION
STUDENT/NURSE PREPARATION
Should appear professional (in full and clean uniform) with ID Card
Hair tied back
Remove watch, jewels, and Rings
Wear close shoes
Hand washing
PATIENT PREPARATION
Identification of the patient
Self-presentation to the patient
Physical and psychological patient preparation
Assess levels of comprehension and collaboration of the patient
Adjust the environment of the patient as necessary.
Check drug: name of the drug, name of the patient, dose, method and hour of administration, expiry date
Explain the procedure and purpose to the patient
Check for any drug allergies and ensure that there is no skin tenderness.
Understand the therapeutic indications of the drug, mode of action and its side effects.
Cleanliness or condition of the bed and surrounding environment
EQUIPMENT

Disposable gloves, prescribed medication and dose, sterile syringe and needle of appropriate size and gauge, antimicrobial swab, disposable container, kidney tray, ampoule cutter if needed, pen, medication administration record, sterile dry gauze.

IMPLEMENTATION

Perform hand hygiene and put on gloves and or other PPE

Close curtains around bed and close the door to the room, if possible

Verify the rights of drug administration.

Prepare medications for one patient at a time.

Check expiration dates and perform calculations, if necessary.

Prepare the medication from an ampule or vial; refer to withdrawing Procedure (vial or ampoule)

Place the client in an appropriate position to expose the site.

Identify the appropriate landmarks for the site chosen.

Cleanse the area around the injection site with an antimicrobial swab.

Use a firm, circular motion while moving outward from the injection site within 30 seconds

Remove the needle cap by pulling it straight off. Expel any air bubbles from the syringe. Hold the syringe in your dominant hand between the thumb and forefinger.

Position the patient comfortably taking in account the injection site.

Identify the injection site and disinfect/clean it.

Tighten the skin between the thumb and forefinger and inject the needle, bevel oriented upwards, with an angle of 15°: Be sure to inject just below the skin!

Inject the drug: this must make the skin surface rise a bit: "Orange peel effect".

Withdraw the needle. Apply gently a dry swab on the injection site.

Do not rub the skin.

Discard the needle in a sharp container

FINISHING

Patient

Position the patient comfortably and appropriately.

Arrange personal effects and objects of the patient within reach.

Thank the patient for his collaboration.

Material

Arrange materials in order

Nurse

Education/ Care-related guidance.
Wash hands.
Make a verbal or written report of Care provided and sign
Check the patient within 30 minutes after giving medication

Lesson Four: Intravenous (IV) drugs administration

This is the Fourth lesson of the unit of Drugs administration through parenteral route. It will cover the injection given intravenously.

a. Learning objectives

At the end of this lesson, learner should be able to:

- Demonstrate theoretical understanding on IV route of drug administration, its indications and contra-indications
- Explain the advantages and disadvantages of IV drug administration route
- Perform the techniques of IV drug administration
- Demonstrate safety precautions to prevent injuries
- Respect patient's privacy during nursing care provision
- Demonstrate self-control while administering IV medications.
- Demonstrate communication and collaboration skills towards patients, care givers and staff during IV medications administration

b. Teaching resources

Student book, Fundamentals of Nursing books, Computer (Laptop), projector, white screen, Figures showing the intravenous route of Medication administration, checklists, Manikins specific for intravenous injection, syringes, needles, swabs, disinfectant, kidney dish, plate, safety box, injectable medications.

c. Prerequisites/Revision/Introduction

To facilitate better this lesson, students must have basic knowledge and skills on ethic and professional code of conduct, nosocomial infection control and prevention and anatomy and physiology of human circulatory system. In addition, learners should have prior knowledge related to Pharmacology and drug doses calculation.

d. Learning activity 4.4.

Guidance

As a facilitator, help learners get engaged in the learning activity 4.4 of the above lesson by doing the following:

- Facilitate the learners to form groups and choose the group leaders; 4-6 learners per each group

- Provide the Fundamentals of Nursing books to all groups. The Fundamentals of Nursing books in soft copies may be used for a group which has a laptop.
- Request learners to open the Fundamentals of Nursing books or their students' books, read the materials on Intravenous (IV) Drugs administration and make a summary note about the items mentioned in the learning activity 4.4
- Allow learners time to read the materials on Intravenous (IV) Drugs administration and make the summary note as requested in the activity.
- Move around to each group to provide any needed assistance
- Choose 2 groups and 2 presenters randomly in order to present their work in class.
- During the presentations, the facilitator will request the presenters to engage all learners during the presentation and the groups will support each other.
- As a facilitator, support learners during class presentations, harmonize the lesson through their findings, respond to questions in which learners failed to respond, make clarification where needed and conclude the lesson by asking some questions related to the lesson.
- At the end of the session, ask the questions under self-assessment 4.4 to assess the learners' understanding of the lesson and the achievement of the intended learning objectives.

Answers to Self-assessment 4.4.

- 1. b. Intravenous (IV) route**
2. Three ways in which the intravenous drug can be administered:
 - Direct administration of an intravenous drug through an IV line
 - Intravenous drug administration via continuing infusion
 - Intravenous drug administration via Intermittent Intravenous Infusion
3. Indications of IV Drug administration:
 - Intravenous drug administration is indicated in most emergency situations when immediate absorption is required.
 - IV therapy is particularly indicated for patients who are unable to take oral medications or need urgent medical intervention.
 - IV therapy is indicated when a rapid effect is required or
 - when medications are too irritating to tissues to be administered by other routes.

e. Skills lab

The teacher will bring students in the skills lab, explore the instruments used for intravenous drugs administration. The teacher will demonstrate to students the technique of IV drug administration using the specific manikin and the check lists and then after allow the students to practice the IV drug administration on manikin following the check lists. The teacher will be circulating in all the groups observing their practice and facilitate them to effectively inject intravenous medication.

IV TREATMENT
SKILL 1: ADMINISTRATION OF IV DRUGS
PREPARATION
NURSE
Clean uniform (dress or gown).
Hair tied properly
Remove watch, jewelry, etc.
Wash hands.
Data-collection
Patient identification
Physical and psychological condition of the patient.
Assess the patient's pathology.
Verify the medical prescription.
Verify the rights of drug administration
PATIENT
Respect patient privacy
Assess the patient's ability to understand and co-operate
Inform and explain to the patient/family: objective, procedure, etc and care.
Assess the puncture site for hygiene and integrity
MATERIAL
Clean and disinfected Trolley/tray.
Sterile cup/gallipot.
Sterile gauze
Drugs for injection (bottle or ampule), according to medical prescription
Solvent, according to medical prescription
Check drug and solvent (aspect, expiry date, verify prescription).
IV needles
Drug drawing needles
Syringes with a capacity according to the volume of drug.

Kidney dish.
Protective gloves.
Protection for bed.
Adhesive tape
Scissors.
Tourniquet
Container for sharp objects.
Disinfectant (alcohol).
Patient's file / chart
Material for taking vital signs.
IMPLEMENTATION
Wash hands.
Take vital signs.
Prepare the drug.
Position the patient in dorsal decubitus.
Apply protective gloves.
Select the limb where injection should be administered.
Place protection under the limb to be punctured.
Inspect the patient's surface anatomy and venous system in the chosen venipuncture site before applying the tourniquet
Locate the vein, stimulating the circulation, if necessary.
Place the tourniquet at approximately 10 cm above the puncture site.
Massage along the vein in the direction of venous return
Select the vein.
For 1 minute widely disinfect the selected puncture site in circular motion
Take the catheter packing and open it.
Visualize the vein and begin by stretching the skin downward below the anticipated venipuncture site with the opposite hand to anchor the vein and limit vein movement
Penetrate in the vein, either from the top, or from the side.
Insert the needle with the bevel up at about a 15- to 30-degree angle so that the needle penetrates halfway into the vessel
When the needle has entered the skin, lower the needle until it is almost parallel with the skin
Keep securely the needle in the vein.
Visualize the flashback of the blood to assure the needle is in the vein

Inject the drug very slowly, observing the patient's reaction and assuring it is entering the vein

Monitor vital signs

Maintain pressure at the puncture site for 30 seconds

Fix a small bandage with adhesive tape

COMPLETION

Patient

Position the patient comfortably and appropriately

Arrange personal effects of the patient and put them within reach.

Thank the patient for his or her collaboration.

Material

Eliminate waste, separating the sharp objects.

Clean and arrange material.

Nurse

Education/ Care-related guidance.

Submit a verbal or written report of Care provided and sign

Wash hands.

Tick and sign for the administration of the drug.

IV TREATMENT

SKILL 2 : INTRAVENOUS (IV) DRUGS ADMINISTRATION- PATIENT HAS AN IV LINE

PREPARATION

NURSE

Clean uniform (dress or gown).

Hair tied properly

Remove watch, jewelry, etc.

Wash hands.

Data-collection

Patient identification

Physical and psychological condition of the patient.

Assess the patient's pathology.

Verify the medical prescription.

Verify the rights of drug administration

PATIENT

Respect patient privacy

Assess the patient's ability to understand and co-operate

Inform and explain to the patient/family: objective, procedure, etc and care.

Assess the IV line site for hygiene and any sign of inflammation

MATERIALS

Clean and disinfected Trolley/tray.

Sterile cup/gallipot.

Sterile gauze

Drugs for injection (bottle or ampoule), according to medical prescription

Solvent, according to medical prescription

Check drug and solvent (aspect, expiry date, verify prescription).

1 drug drawing needle

1 needle for drawing normal saline

Syringe with a capacity according to the volume of drug.

10ml Syringe for flushing

0.9% normal saline solution

Kidney dish.

Protective gloves.

Protection for bed.

Container for sharp objects.

Disinfectant (alcohol).

Patient's file / chart

Material for taking vital signs.

IMPLEMENTATION

Wash hands.

Take vital signs.

Prepare the drug and 10ml of 0.9% NS for flushing

Position the patient in dorsal decubitus.

Place protection under the limb with IV line for injection.

Apply protective gloves.

Slip sterile gauze under the catheter pavilion.

Clean the external part of the catheter if necessary

Verify the patency of the vein with 5ml of normal saline; aspirate to make sure that there is no clot into the catheter. If there is no clot, use it to flush the line.

NB: If the patient has the running infusion, flushing is not necessary. Use injection port for giving the drug.

Inject the drug very slowly, observing the patient's reaction and assuring it is entering the vein

Flush the line again with 5ml of normal saline

Lock the catheter and Monitor vital signs

COMPLETION OF THE PROCEDURE

Patient

Position the patient comfortably and appropriately

Arrange personal effects of the patient and put them within reach.

Thank the patient for his or her collaboration.

Materials

Eliminate waste, separating the sharp objects.

Clean and arrange materials.

Nurse

Education/ Care-related guidance.

Submit a verbal or written report of Care provided and sign

Wash hands.

Tick and sign for the administration of the drug.

IV TREATMENT**SKILL 3 : IV INFUSION OR INTRAVENOUS PERFUSION****PREPARATION****NURSE**

Clean uniform (dress or gown).

Hair tied properly

Remove watch, jewelry, etc.

Wash hands.

Data-collection

Patient identification

Physical and psychological condition of the patient.

Assess the patient's pathology.

Verify the medical prescription.

PATIENT

Respect patient privacy

Evaluate the patient's ability to understand and collaborate

Inform and explain to the patient/family: objective, procedure, of the care etc..

Assess the puncture site for hygiene and integrity

Make sure that clothing can be withdrawn easily.

MATERIALS

Clean and disinfected Trolley/tray.

Sterile cup/gallipot.

Sterile gauze

Infusion solution

* Check the solution (aspect, expiry date)

* Calculate the drip rate

Infusion kit

Adapted catheter.

Tourniquet

Kidney dish.

Protective gloves.

Protection for the bed

Adhesive tape

Scissors.

Bracket/IV stand/ drip stand.

Container for sharp objects.

Disinfectant (alcohol).

Fastener for bottle, if necessary.

Watch with second hand.

Label.

Material for taking vital signs.

IMPLEMENTATION

Wash hands.

Select the opposite limb of the dominant side (left for right-handed and right for left-handed persons).

Determine, with the patient, the position of the arm

Place protection under the limb to be punctured.

Take vital signs.

Prepare the IV set for infusion:

* Move the drip regulator approximately 5 cm from the dropper.

* Close the drip regulator

Disinfect the cap of the bottle / nozzle of the bag.

Connect the infusion set to the bottle / bag

Hang the bottle and tubing to the bracket (drip stand).

Fill the dropper halfway

Open the “tube-tightener” and purge the case.

Close again the “tube-tightener” and put back the cap on the nozzle of the case.

Hang the infusion container on the bracket.

Apply protective gloves.

Locate the vein, stimulating the circulation, if necessary.

Place the tourniquet at approximately 10 cm above the puncture site.
Massage along the vein in the direction of venous return
Select the vein.
For 1 minute widely disinfect the selected puncture site
Take the catheter packing and open it.
Visualize the vein and begin by stretching the skin downward below the anticipated venipuncture site with the opposite hand to anchor the vein and limit vein movement
Penetrate in the vein, either from the top, or from the side.
Puncture the vein using direct or indirect entry:
Direct (one step, used for larger veins): Hold the over-the-needle assembly at 15 to 20 degrees above the site and enter the vein directly.
Indirect (two steps, used for smaller veins): hold the assembly 15 to 20 degrees above the site and 20 degrees lateral to the vein, insert the catheter into the skin, and then advance into the vein.
When the vein is punctured, blood should appear in the flash chamber: withdraw slightly the needle while slipping the catheter into the vein.
Put a small compress below the end of the needle.
Remove the needle by slightly pressing on the skin from the top of the catheter extremity.
Maintain the catheter holder in place.
Loosen the tourniquet and remove it.
Quickly connect the case to the catheter.
Open the drip regulator and adjust it to the prescribed rate of infusion
Slip sterile gauze under the catheter pavilion.
Fix the catheter with adhesive tape
Adjust the flow according to the prescription.
Place the label (name of the patient, n° of bed, dates, hour of beginning, hour of end, flow rate, drugs added, signature)
Label the catheter inserted (date of insertion, time, date of removal/replacement)
Monitor the patient reactions
COMPLETION OF THE PROCEDURE
Patient
Position the patient comfortably and appropriately
Arrange personal effects of the patient and put them within reach.
Thank the patient for his or her collaboration.
Materials

Eliminate waste and separate the sharp objects
Clean and arrange the materials.
Nurse/Nurse
Education/ Care-related guidance.
Submit a verbal or written report of Care provided and sign
Wash and disinfect hands.
Tick and sign the administration of drug, if applicable
Monitor the infusion

4.6. Summary of the unit

The unit of drugs administration through parenteral routes is an important part to equip an associate nurse in his or her future career with knowledge and skills related to parenteral drugs administration. This unit emphasized on different parenteral routes of drug administration such as intramuscular, subcutaneous, intradermal and intravenous. For safe medications administration, an associate nurse will ensure the appropriate assessment is done before drug administration, document all relevant facts during and after drug administration and make evaluation depending on the time frame of the administered drug. We have to remember that the patient has the right to refuse a drug, if so, an associate nurse needs to report to the prescriber. Because drug administration is among the basic responsibilities of a nurse, we believe at the end of this unit the learner will be confident enough to administer medication appropriately.

4.7 Additional information for teachers

Special consideration in drug administration

In drug administration we have to take into consideration different category of people and their special needs. Depending on physical development and life demand, form of medication, administration route and some medications are preferred over others. Below are the highlights of main issues to consider when administering medication in children, pregnant women and in elderly.

Children: Because the dorsogluteal muscle is developed by walking, this muscle should not be used for children under 3 years unless the child has been walking for at least 1 year. On the other hand, the Vastus Lateralis Muscle is well developed even for children. Therefore, the Vastus Lateralis Muscle is increasingly recommended as the site of choice for intramuscular injections for infants because the muscle is well developed and there are no major blood vessels or nerves in the area. It is the reason why, most of the time the intramuscular injection for infants is given on the thigh instead of on the buttocks. With young children, it should be better to grasp

the body of the muscle during injection to be sure that the medication is deposited in muscle tissue.

Pregnant women: A bid number of women take medications without considering possible harm to their fetuses. Those drugs taken during pregnancy may cross the placenta and reach the developing fetus. Possible effects may be developmental delay, intellectual disability, birth defect, miscarriage and stillbirth. The associate nurse should be sure if the medication to be administered is safe both the mother and the fetus. Women with chronic diseases such as diabetes, asthma, epilepsy... need to continue their medication under physician supervision.

Older adults: Due to physiological change associated with aging elderly require small dosage of medication, in addition their reaction to some medications is unpredictable, reason why a nurse should observe carefully the old patient after drug administration. In addition, elderly people may have reduced muscle size in which the shorter needle may be needed to inject the medication into the muscle. Also, due to reduced muscle size, grasping the body of the muscle during injection would be ideal to ensure that the medication is deposited into muscle tissue.

4.8 Answers to end unit assessment

1. An intravenous (IV) is considered the most dangerous route of drug administration because once an intravenous medication is delivered, it cannot be retrieved, and its actions cannot be slowed. IV medications, if given too quickly or incorrectly, can cause significant harm or death.
2. When medication is administered by continuous infusion, the patient receives it slowly and over a long period. Although this can be an advantage when it is desirable to give the medication slowly, it is a disadvantage when the patient needs to receive the drug more quickly. Also, if for some reason not all of the solution can be infused, the patient will not receive the prescribed amount of the medication
3. a
4. b
5. d
6. a
7. d
8. Purposes of IV therapy:
 - Maintaining or Restoring Fluid Balance
 - Correcting Electrolyte Imbalances
 - Delivering Medications

- Providing Hydration
- Emergency Situations
- Total Parenteral Nutrition (TPN)
- Blood Transfusions

9. a

10. b

11. a

12. b

13. Muscles used for IM injection:

- Dorsogluteal muscle
- Ventrogluteal muscle
- Vastus Lateralis muscle
- Deltoid muscle

14. a. 5 ml

b. Advantages of Intramuscular Injection:

- Medications are completely absorbed.
- Absorption is quicker than subcutaneous route due to increased vascularisation.
- IM is a safer technique to use on thin patients.
- IM is a safer technique to use with an agitated or combative patient.
- Pain from irritating drug is minimized
- It can administer larger volume than subcutaneous

Disadvantages of Intramuscular Injection:

- There is increased discomfort with an intramuscular injection, particularly if poor technique is used.
- Breaks skin barrier
- There is a risk of hitting a nerve, causing nerve damage.
- There is a risk that an abscess may form at the injection site.
- Can be anxiety-producing

c. **Indications of IM injection:**

- Client won't/can't swallow a drug
- Client is vomiting/having gastric suction
- Drug action hampered/destroyed by GI secretions

- Quicker action needed compared to oral route
- Drug irritating to the GIT
- Substance is irritating to subcutaneous tissues
- Rapid drug action is desired
- Amount of drug (to be injected) is more than what subcutaneous tissues can absorb

Contraindications of IM injection:

It is contraindicated to use IM in case of active infection such as cellulitis or dermatitis at the site of administration. Acute myocardial infarction- the release of muscle enzymes may provide a confounding bias in making the diagnosis. In case of thrombocytopenia, coagulation defects, hypovolemic shock which cause reduced absorption of the drug due to poor perfusion of that muscle. Myopathies and associated muscular atrophy delay drug absorption as well as adds up the risk of neurovascular injuries

15. Materials used for IM injection are: Sterile syringes and needles, alcohol-based antiseptic solution, drug, medication chart, dry cotton swab, safety box, disposable gloves, dustbin, trolley and plate.
16. Commonly used site for subcutaneous route are the back of the upper arms, abdomen, and anterior thighs.
17. a) The key actions done by the nurse while caring for Isaro is to follow right of drug administration as follow: Identify right patient where she ready name of patient name and go to the bed side to ask the mother the child's name and compare the names on the file and what the mother say. Right drug: in this case nurse read the patient file and found that the physician prescribes a suppository paracetamol and went in medication box and choose the prescribed medication (paracetamol 250mg intra rectal). Right route: after reading in patient file, she found that the prescribed medication should be administered via rectum (intra rectal). Right dose: through reading the file nurse found that the physician had prescribe 250 mg of paracetamol suppository. Right time: nurse was confirming the time to administer such medication before administration. Right education: administration of medication to the patient nurse was first explain to the patient what is going to do and its importance. Right to refuse: a nurse requests a consent to administer a prescribed medication and the mother accept that the nurse should give medication to her child.

Right assessment: here a nurse had measured again patient temperature before administration of prescribed medication (paracetamol). Right documentation as she was writing the activity done in patient file after drug administration. Right evaluation where she come back to control temperature after 30 min of drug administration.

b) In this case nurse uses intra- rectal drug administration route.

c) Both intramuscular and intra dermal injection are parenteral routes of drug administration. Intramuscular drug administration route is one of parenteral routes which is a method of installing medications via injection into the depth of the bulk of specifically selected muscles, however an intradermal drug administration route is a parenteral route which consist of administration of a drug into the dermal layer of the skin just under the epidermis.

4.9 Additional activities

4.9.1 Remedial Activities:

- 1) What are the complications associated with intramuscular injection?

Answer: Most complication of intramuscular are muscle fibrosis and contracture, abscess at the injection site, gangrene, nerve injury, periostitis, transmission of HIV, hepatitis virus when sharing the needle and persistent pain at the site of injection.

- 2) How many ml to not exceed in subcutaneous injection?

Answer: SC drug administration is applicable for limited quantities of medications not exceeding 1,5 to 2 ml

- 3) What do you consider while selecting the site for intramuscular injection?

Answer: When selecting an IM site, consider the following:

- Is the area free of infection or necrosis?
- Are there local areas of bruising or abrasions?
- What is the location of underlying bones, nerves, and major blood vessels?
- What volume of medication is to be administered? Each site has different advantages and disadvantages.

4.9.2 Consolidation activities:

- 1) When giving injections in the buttocks the nurse must properly identify appropriate land marks to prevent damage to the:
 - a. Sciatic nerve
 - b. Spinal cord
 - c. Coccyx

Answer: a.

- 1) The Dr prescribes to Mr. K, an injectable pethidine 10mg to be administered in intramuscular, the available vial has a concentration of 2 mg/1 ml. Calculate the correct volume of pethidine to be administered to Mr K.

Answer:

Prescribed dose =10mg, available dose = 2mg ,Vehicle=1ml,

The correct dose of pethidine to administer to Mr K. is 5ml

4.9.3 Extended activities

- 1) What is the importance of knowing injection site landmarks?

Answer: To know injection site landmarks help us to know the exact safe area free from nerves, bone and big blood vessels to inject our medication.

- 2) Why should we make sure that the needle is inserted into at an angle of 10 to 15 degrees during intradermal injection?

Answer: During intradermal injection, we have to inject at 10 to 15 degrees angle in order to make sure that the injection is not done in subcutaneous.

- 3) What are the advantages and disadvantages of intravenous drugs administration?

Answer:

Advantages	Disadvantages
Intravenous medications can deliver an immediate, fast-acting therapeutic effect, which is important in emergent situations such as cardiac arrest or narcotic overdose. They are useful to manage pain and nausea by quickly achieving therapeutic levels, and they are more consistently and completely absorbed compared with medications given by other routes of injection.	Once an intravenous medication is delivered, it cannot be retrieved. When giving IV medications, there is very little opportunity to stop an injection if an adverse reaction or error occurs. IV medications, if given too quickly or incorrectly, can cause significant harm or death.
Doses of short-acting medication can be titrated according to patient responses to drug therapy. Medication can be prepared quickly and given over a shorter period of time compared to the IV piggyback route.	Any toxic or adverse reaction will occur immediately and may be exacerbated by a rapidly injected medication.

Minimal dilution is required for some medications, which is desirable for patient's own fluid restrictions.	Extravasation of certain medications into surrounding tissues can cause sloughing, nerve damage, and scarring.
There is minimal or no discomfort for the patient in comparison to SC and IM injections.	Not all medications can be given via the direct IV route.
They provide an alternative to the oral route for drugs that may not be absorbed by the GI tract, and they are ideal for patients with GI dysfunction or malabsorption, and patients who are NPO (nothing by mouth) or unconscious.	There is a high risk for infusion reactions, mild to severe, because most IV medications peak rapidly (i.e., they have a quick onset of effect). A hypersensitivity reaction can occur immediately or be delayed, and requires supportive measures.
IV direct route provides a more accurate dose of medication because none is left in the intravenous tubing.	Route for administering medications may damage surrounding tissues. There is an increased risk of phlebitis with highly concentrated medication, especially with small peripheral veins or a short venous access device.

5.1 Key unit competence

Provide first aid in case of emergencies

5.2 Prerequisites

Students will learn better the content of this unit “first aid care in emergency situations” if they have a good understanding of:

- Anatomy and physiology: the students should be able to recall anatomy and physiology related to respiratory system, cardiovascular system, nervous system, musculoskeletal system and integumentary system.
- Nursing ethics and professional code of conduct: The students should be able to recall and relate concepts of ethics and professional conduct to first aid, in particular, concept of professionalism; concepts of code of conduct; scope of practice of healthcare.

5.3 Cross-cutting issues to be addressed

Throughout teaching this unit you should relate the content being taught with the following cross-cutting issues:

a. Environment and sustainability

As the teacher, inform the students that the environment must be sustained at all cost to prevent disaster which might arise from poor environment. Additionally, teach them that medical wastes related to first aid interventions might contain potentially harmful microorganisms that can spread in the environment and infect the habitat of all populations living organisms. Subsequently, some living organism might die as a result of such infection. Therefore, emphasize to students that such wastes should be appropriately handled and treated to protect and sustain the environment.

b. Gender equality

Gender is a socially constructed perception about the roles that men and women play in a particular culture. Gender differences involve power relations in terms of who takes decisions. The teacher will encourage the students to have in mind that gender disparities is prohibited in their interventions to avoid unequal access to quality health care. He will also take in account that gender could not bring the differences in achievement between males and females. He has to raise awareness in considering and recognizing that there is a women and girls’ added vulnerability in emergency situation.

c. Peace and values

Throughout the lessons, the teacher will remind the students the importance of having an attitude that inspires peace and serenity. Some cases of emergency are the results of a mismanagement of conflicts. He/she will debate with students how to resolve inter-personal tensions, disputes through negotiation and peer-mediation. He will invite them to maintain a climate of peace in the school and different interventions in which they are involved.

d. Comprehensive sexuality education

The teacher will explain to the students that, it is very important and crucial to take in account about the issues related to the sexuality, because the first aider may rescue person (victim) of the different sex, therefore the students will perform first aids bearing in mind that it is their responsibilities to know that everyone has the right to sexual health and privacy. However, remind the students that there are the sexual transmitted diseases that they need to protect themselves from contamination.

e. Inclusive education

The teacher will have in mind that all students have right to attend the course regardless of their different needs. Attention should be paid during all the process of the lessons to address this issue. All students will benefit from the same menu of learning process. The possibility of this assumption is the focus of special needs education. The critical issue is that all students are totally different in their ways of living and learning as and then their difference will be taken into account. This can be either emotional, physical, sensory and intellectual learning challenged. For students who have physical impairment that prevent them hands on activities have to be provided with adapted assimilations. Those with partial visual impairment can be provided with printed activities in large front size.

5.4 Guidance on the introductory activity

Before starting the first lesson of this unit titled “*First Aid Care in Emergency Situations*”, using pictures of introductory activity, ask the students to attempt an introductory activity. This introductory activity intends to:

- Relate the unit with students’ past life experience to attract their attention
- Assess what is already known by students regarding life-threatening emergencies and related first aid interventions

As a facilitator, invite the students to observe the pictures of introductory activity and encourage them to attempt answering asked questions based on their past experience whether they have been involved in life-threatening emergency and or have seen or heard about it. You should bear in mind that there is no right or wrong answer from students as their responses are based on their past experiences.

Allow students to have 2 to 3 min for observation and reflection on the pictures, then allow them to express their ideas. Consider their ideas and build on them to inform what they will learn in this unit.

Answers to the introductory activity 5

1. The following are the answers to question 1:

- Each picture represents two people of whom one is a victim and the other one a rescuer.
- Each image shows a rescuer intervening to help the victim

2. The following are the answers to question 2:

- Picture A – shows a first aider performing chest compressions on a victim having a cardio respiratory distress
- Picture B – shows a first aider performing pressure immobilization technique on a snake bite victim
- Picture C – shows a first aider covering the victim with a blanket (either to warm the victim after drowning or for smoothing fire flames on burn victim)
- Picture D – shows a first aider giving rescue mouth to mouth breaths to the victim having a cardiorespiratory distress
- Picture E – shows a first aider applying a compressive dressing to control a forehead bleeding
- Picture F – shows a first aider applying tourniquet on left leg to control severe bleeding
- Picture G – shows a first aider moving the victim to a safe place
- Picture H – shows a first aider performing abdominal thrusts to help choking victim
- Picture I – shows a first aider helping a fainted victim

3. The following are the answers to question 3:

The first aider should possess good communication skills, good leadership skills, able to work under pressure and working in a team along recognizing his/her own limitations.

5.5 List of lessons

Nº	Lesson title	Objectives	Number of periods
1	Lesson 1: Concepts of first aid, triage in emergency care	<ul style="list-style-type: none"> Define the concepts of First aid Explain importance of triage Triage victims using START triage system 	1
2	Lesson 2: Principles of first aid care and qualities of first aider	<ul style="list-style-type: none"> Explain the principles of First aid care Identify qualities of a first aider 	1
3	Lesson 3: Emergency gestures ABCD	Explain ABCD approach used in first aid	1
4	Lesson 4: Burns	Apply first aid techniques in case of burns	1
5	Lesson 5: Drowning	Apply first aid techniques in case of Drowning	1
6	Lesson 6: Choking	Apply first aid techniques in case of Choking	1
7	Lesson 7: Cardio respiratory distress	Apply first aid techniques in case of Cardio respiratory distress	2
8	Lesson 8: Fractures	Apply first aid techniques in case of Fractures	1
9	Lesson 9: Hemorrhage	Apply first aid techniques in case of Hemorrhage	1
10	Lesson 10: Loss of consciousness or fainting	Apply first aid techniques in case of Loss of consciousness or fainting	1
11	Lesson 11: Snake bites	Apply first aid techniques in case of Snake bites	1
12	Lesson 12: Epilepsy / Seizures	Apply first aid techniques in case of Epilepsy/Seizures	1
13	Application activity		2
14	Skills lab		3
15	End unit assessment		2
	TOTAL		20

LESSON 1: Concepts of first aid, triage in emergency care

a. Learning objective

At the end of this lesson, students will be able:

- To define the concepts of first aid
- Explain importance of triage
- Triage victims using START triage system

b. Teaching resources

- Use the illustrations in the students' book i.e. introductory activity 1 and learning activity 5.1 (picture A and B), projector, manila paper, flipchart, black board and chalks.
- Video/ movies of triaging in a mass casualty situation downloaded from YouTube

c. Prerequisites

Students will learn better the concept of First aids, if they have the understanding on the concept of emergencies, sudden illness or accident and `safety. Ask students to explain orally those concepts. The answers of all concepts to be used are already defined in the general introduction of the unit in the student book.

d. Learning Activities 5.1.1

Guidance

Before introducing the lesson, you must introduce the whole unit. Ask students to attempt the introductory activity 1 as it is guided above, then activity 5.1 which leads students to the first lesson of this unit.

The learning activity 5.1.1 questions are written in the students' book. However, the teacher can add more questions. The teacher will use round table activity Ask students to do this activity.

Answers to learning activity 5.1.1

Answer to question 1:

- Picture A shows first aiders attending a mass casualty scene where each of them is trying to help victims
- Picture B shows steps to follow for effective rescue of a collapsed casualty. However, the same steps are used to deal with any emergency rescue situation

Answer to question 2:

The first bystander at the car accident should be calm, assess the scene for dangers, call for help and then attend to the victims

e. Self-assessment 5.1.1

As a facilitator, assess this lesson by asking the students to answer questions of the self-assessment 5.1.1 reflecting to what they have just learnt. Expected answers include:

Answer to question 1:

We learn first aid to become skilled first aider who can sort sickest patients or critically injured, attempt first aid, manage properly the environment, and keep everyone safe until emergency medical service (EMS e.g. SAMU) arrive for more advanced care.

Answer to question 2:

The START triage system is a simple way that allows rapid assessment of victims within 15 seconds per casualty/victim. It is based on respiratory, perfusion and mental status assessment. Life threatening condition are addressed as they are detected.

LESSON 2: Principles of first aid care and qualities of first aider

a. Learning objectives

At the end of this lesson, students will be able to:

- Explain the principles of first aid care
- Identify qualities of a first aider

b. Teaching resources

Use the learning activity 5.1.2 in the students' book, projector, manila paper, flipchart, black board and chalks.

c. Prerequisites

Students will learn better the content of this lesson if they have a good understanding of:

Anatomy and physiology: the students should be able to recall anatomy and physiology related to respiratory system, cardiovascular system, nervous system, musculoskeletal system and integumentary system as well as *the nursing ethics and professional code of conduct*

d. Activities 5.1.2

Guidance

Before introducing the lesson, ensure the learning activity questions are loudly read and carefully listen to by students. Then ask students to attempt answering these questions.

- Randomly choose students to answer learning activity questions

- Get four to five opinions for each learning activity question allowing students to challenge each other and ensuring all gender participation
- Build on students' responses and give more clarifications on the topic ensuring every learner can hear what you are explaining
- Finally, assess the lesson by letting students attempt self-assessment activity 5.1.2 students can do this exercise either in the course of this lesson if there is still time or as home work. Make sure you mark the students' homework.

Answer to learning activity 5.1.2

- *Answer to question 1:* refer yourself to principles of first aid in student book
- *Answer to question 2:* refer yourself to qualities of first aider in student book

Answers to self-assessment 5.1.2

Students responses should depict the four principles of first aid i.e. preserve life, prevent deterioration, promote recovery and protect the unconscious casualty and portray qualities of a good first aider i.e. good communication skills, ability to work in a team, ability to work under pressure, good leadership skills and knowledge of their own limitations.

- In Picture A—the first aider stays calm and assess the scene to not risk her own safety, that of the injured person, or of other people in the area to prevent further injury.
- In Picture B – she starts managing the situation ensuring there is safe access to the person and she take charge to reduce the overcrowding and she is using (guiding) some bystanders to help dealing with the situation
- In Picture C – she is managing the person and provide first aid care aid care to preserve life and promote recovery ensuring bystanders are not interfering along using/guiding some of them in the process
- In Picture D – she is doing things step by step to avoid making mistakes, getting overwhelmed or missing important information. She also ensures emergency medical service such as SAMU is called as she recognize her own limitations

LESSON 3: Emergency gestures ABCDE

a. Learning objectives

At the end of this lesson, students will be able to explain ABCD approach used in first aid

b. Teaching resources

- Video/ movies of ABCD approach to emergency situation downloaded from YouTube

- Use illustration in students' book (picture B of learning activity 5.1.1), projector, manila paper, flipchart, black board and chalks.

c. Prerequisites

Students will learn better the content of “First Aid Care in Emergency Situations” if they have a good understanding of:

- Anatomy and physiology: the students should be able to recall anatomy and physiology related to respiratory system, cardiovascular system, nervous system, musculoskeletal system and integumentary system.
- Nursing ethics and professional code of conduct: The students should be able to recall and relate concepts of ethics and professional conduct to first aid, in particular, concept of professionalism; concepts of code of conduct; scope of practice of healthcare professionals.

d. Learning activities 5.1.3

Guidance

Before introducing the lesson, task students, to observe once again “picture B” and challenge them to figure out what ABCDE approach involves for effective emergency care provision. Furthermore, invite them to practice what they saw on model mannequin in skills lab.

As a facilitator, you are expected to guide students through the following steps:

- Form a group of 4 to 6 students depending on their performance results and class size to form 5 groups (i.e. group A for airway, group B for breathing, group C for circulation, group D for disability and group E for exposure).
- Give three to five minutes to students to discuss in their small group the assigned task to come up with something to present to other groups what entails the assigned step of ABCDE
- Invite randomly two group to present and demonstrate to other groups what they have achieved with regard to the assigned task
- Ask other groups to add any ideas on what other groups have presented if they have them and allow them to ask related questions

Answer to learning activity 5.1.3

The ABCDE approach involves checking and addressing airway with cervical spine protection, breathing and ventilation, circulation with hemorrhage control, disability and exposure of the victim.

Answer to self-assessment 5.1.3

- The ABCDE approach is performed in a stepwise approach

- For the recovery positioning please refer yourself to student book

LESSON 4: Burns

a. Learning objective

At the end of this lesson, students will be able to:

- Explain burn
- Apply first aid techniques in case of burns

b. Teaching resources

- Video/ movies of burn and first aid of burned victim downloaded from YouTube
- Use illustration in students' book (picture A of introductory activity 5.2), projector, manila paper, flipchart, black board and chalks, first aid kit, a towel, bed sheets and blankets.

c. Prerequisites

Students will learn better the concepts of first aid for burns, if they have the understanding on the following concepts as prerequisites: anatomy and physiology of integumentary system, heat, thermal agents, effect of electricity on human body, biologic effects of corrosive chemical agents and radiations. Ask students to explain orally those concepts.

d. Guidance on the introductory activity 5.2

Before starting the fourth lesson, introduce first the whole sub-unit "First aid in the selected common emergency situation" using pictures of introductory activity 5.2 and ask the students to attempt answering related questions. This introductory activity intends to give learner an overview of common emergency situation that require first aid.

Answers to the introductory activity 5.2

Answer to question 1:

- Picture A show a superficial burn
- Picture B show a near drowned victim
- Picture C shows a choked victim
- Picture D show two victims who have received first aid for musculoskeletal injuries
- Picture E show a victim bitten by a snake
- Picture F show an external hemorrhage

Answer to question 2:

Acknowledge students' responses related their community response to snake bite. Highlight that the effective way of providing first aid to a snake bite victim will be cover in lesson 11 of this unit.

Answer to question 3: - D

e. Learning activity 5.2.1

Guidance

- Facilitate students to form groups of 5 to 6 students
- Ask the students to attempt the activity 5.2.1 available in their student book
- Move around to facilitate each group to do the activity
- Select randomly any two group to present their findings
- Ask the others groups to complement their colleagues

Answers to learning activity 5.2.1

The causes of burns include fire, hot liquid or steam, hot objects, electrical currents, radiation sources, certain chemicals and exposure to extreme cold.

Answers to self-assessment 5.2.1

Refer yourself to first aid interventions in case of burn. Note and clear any confusion that students may have with regard to the source of burn as some learners may think the source is electricity rather than heat.

LESSON 5: Drowning

This is the fifth lesson of unit 5 and is a single lesson. This means that it has only one period (40 minutes).

a. Learning objective

At the end of this lesson, students will be able to apply first aid techniques in case of drowning

b. Teaching resources

- Video/ movies of drowning with its associated first aid care downloaded from YouTube
- Use illustration in students' book (learning activity 5.2.2), projector, manila paper, flipchart, black board and chalks.

c. Prerequisites

Drowning is a type of suffocation induced by the submersion or immersion of the mouth and nose in a liquid. In this lesson, the teacher will ask students to review the concepts of physiology of breathing, aqua stress and thermoregulation

d. Learning activity 5.2.2

Guidance

- Facilitate students to form groups of 5 to 6 students
- Ask the students to attempt the activity 5.2.2 available in their student book
- Move around to facilitate each group to do the activity
- Select randomly any two group to present their findings
- Ask the others groups to complement their colleagues

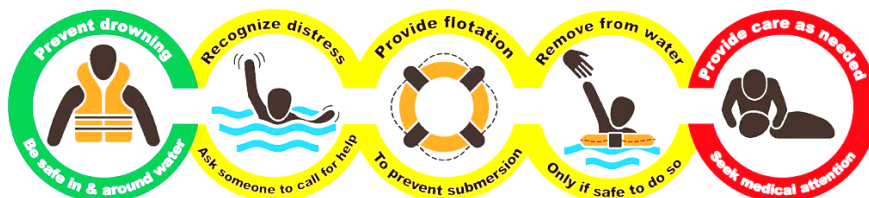
Answers to learning activity 5.2.2

Answer to question 1:

Student may respond differently. However, the image shows an inanimate person lying in the bottom of a swimming pool and seem to be drowning.

Answer to question 2:

- To describe first aid for drowning victim, use the student book.
- Highlight importance of recognizing near drowning and
- Give a brief summary of drowning chain of survival using the graph below



Answer to Self-assessment 5.2.3

Once out of water, the victim should be placed in recovery position if the victim can breathe otherwise place the victim in spine position and follow CPR guidelines

LESSON 6: Choking

a. Learning objectives

At the end of this lesson, students will be able to apply first aid techniques in case of choking.

b. Teaching resources

- Video/ movies showing choking victim and related first aid interventions downloaded from YouTube
- Use choking illustration in students' book, projector, manila paper, flipchart, black board and chalks.

c. Prerequisites

Students will learn better the will learn better the contain of this lesson if they have a good understanding of airway passages and breathing anatomy and physiology. Knowledge of ethical principles and code of conduct is also paramount.

d. Learning activities 5.2.3

Before introducing the lesson, ask students to follow while one of them read loudly the assigned learning activity. Ask students to answer question 1 of this learning activity.

Once question one is answered, invite students to practice the skill of choking relief on each other following written steps and or matching this with what they have seen on video.

- You are expected to guide students through the following steps
- Form a group of 2 students depending on their performance results
- Allow students to have a 2 minutes for a glance and understanding of the steps involved in choking relief
- Give students three to five minutes to practice on each other the skill in their group following the step checklist
- Move around groups guiding and facilitating them accordingly
- Invite randomly two or three group demonstrate the skill to others
- Ask other groups to comment briefly on what have been demonstrated and ask for related clarification if needed
- Build on what students have done and give more clarification and or demonstrate the skill ensuring every learner can hear what you are explaining and or demonstrating. Ensure you highlight the differences pertaining specific age groups for choking relief.
- Finally, assess the lesson by letting students attempt application activity 5.2.3. students can do this exercise either in the course of this lesson if there is still time or as home work. Make sure you mark the students' homework.

Answers to learning activity 5.2.3

- Q1 – the guy is choking (state signs of choking to support your answer)
- Q2 – to rescue the choking victim use the skills checklist below.

Choking Adult or Child First Aid Skill Checklist

1. Try to dislodge the object by alternating between any two of the following methods until the object comes out: back blows, abdominal thrusts, and chest thrusts

2. Continue alternating between the two methods until the object comes out, the person begins to breathe, or the person becomes unresponsive

3. If the choking person becomes unresponsive, ensure that EMS (SAMU – 912) has been called and begin CPR, starting with chest compressions

Back Blows:

- Stand or kneel behind the person and place your arm across the person's chest.
- Bend the person forward at the waist and deliver up to 5 firm back blows between the shoulder blades.

Abdominal Thrusts

- Stand or kneel behind the person
- Wrap your arms around the person's waist, make a fist, and place it just above the belly button
- Cover your fist with your other hand and give up to 5 quick, inward and upward thrusts

Chest Thrusts

- Stand or kneel behind the person and wrap both of your arms around the person's chest.
- Make a fist and place it in the middle of the person's chest with your thumb facing inward, and place your other hand over your fist.
- Give up to 5 chest thrusts by pulling straight back toward you

Skill Notes

- a. If you are alone, immediately begin providing care for choking. Call EMS (SAMU -912) as soon as you are able to do so.
- b. When doing chest thrusts, your arms should be wrapped around the person's chest, just below his or her underarms.
- c. If the first chest thrusts aren't effective, pull more sharply and deeply.

NB: It is important to always follow DRSABCDE approach when giving feedback to students

Answer application activity

Answer to question 1:

- a. The boy is choking as result of swallowing foreign object (small block toy)
- b. Refer to steps for relieving of a choking infant in student book and the skill checklist below

Choking Baby First Aid Skill Check Sheet

1. Sit or kneel with the baby face down along your forearm, holding the jaw in your hand but keeping the mouth clear
2. Deliver 5 firm back blows between the shoulder blades
3. If the object does not come out, flip the baby face up, ensuring you support the head
4. Place 2 fingers in the middle of the chest and deliver 5 firm chest compressions, pushing down one-third of the chest's depth
5. Repeat the 5 firm back blows and 5 chest compressions until the object comes out, the baby begins to breath normally or cry, or the baby becomes unresponsive
6. If the choking baby becomes unresponsive, ensure that EMS (SAMU – 912) has been called and begin CPR, starting with chest compressions
<p>Skill Notes</p> <ul style="list-style-type: none"> • If you are alone, immediately begin providing care for choking. Call EMS (SAMU – 912) as soon as you are able to do so. • When placing 2 fingers on the baby's chest, you can use the nipple line as a landmark, placing your 2 fingers just below the nipple line.

c. The kid is having a severe choking

Answer to question 2:

It's important to remember that when treating a pregnant woman, regardless of the situation, you're actually treating two patients. Therefore, avoid performing abdominal thrusts, as these can injure the uterus or baby, perform chest thrusts instead of abdominal thrusts.

LESSON 7: Cardio respiratory distress

a. Learning objective

Apply first aid techniques in case of cardio respiratory distress

b. Teaching resources

- Video/ movies showing CPR downloaded from YouTube.
- Use choking illustration in students' book, projector, manila paper, flipchart, black board and chalks.
- Resuscitation mannequin, ambu bag-valve-mask and AED

c. Prerequisites/Revision/Introduction

The concepts of cardio respiratory distress include the heart, the lungs, the airway passages and breathing muscles. Therefore, to understand this lesson better, request students to revise the anatomy and physiology of cardiovascular and respiratory systems.

d. Learning activity 5.2.4

Guidance

- Facilitate students to form groups of 5 to 6 students
- Ask the students to attempt the activity 5.2.4 available in their student book
- Move around to facilitate each group to do the activity
- Select randomly any two group to present their findings
- Ask the others groups to complement their colleagues

Answers to learning activity 5.2.4

Answer to question 1:

- Picture A – shows a victim on whom the first aider is carotid assessing pulse
- Picture B – shows a first aider performing chest compressions
- Picture C – shows a first aider giving rescue breaths
- Picture D – shows a victim with exposed chest and AED pads are attached

Answer question 2:

- Call for help
- Open airway by use of head-tilt chin lift or jaw thrust maneuver
- Give rescue breaths

Answers to self-assessment 5.2.4

Answer to question 1:

Follow the DRSABCDE approach for more details refer to student book.

Answer to question 2:

The learner follows the steps described in the student book and more guidance can be provided by use of the check list below.

CPR/AED First Aid Skill Check Sheet

1. Check to see if the scene is safe and if there are any hazards.

2. Check for responsiveness

3. If unresponsive, shout for help or send for help and start CPR

4. Do chest compressions:

- Put 2 hands in the middle of the victim's chest (2 fingers in babies).
- Push down at least one-third of the chest's depth, pushing deep and pushing steady

5. Give 2 breaths:

- Open the airway.
- Place your barrier device over the child's mouth and nose.
- Give just enough air to make the chest start to rise.

6. Once 2 breaths are given resume another cycle of chest compressions and breaths

7. Assess the victim for pulse and breath after 5 cycles (about 2 minutes)

8. Continue CPR until:

- EMS (SAMU) personnel or another person takes over.
- You are too tired to continue.
- The scene becomes unsafe.
- The victim responds positively and become responsive

CPR Skill Notes

- You should do between 100 to 120 chest compressions per minute
- You should allow the chest to fully recoil between compressions.
- When doing compressions on an adult, do not exceed a compression depth of 6 cm while in a child, you should not exceed one-half of the chest depth
- Each CPR cycle include ratio of 30 compressions: 2 breaths in adults and a rate of 15 compressions: 2 breaths if 2 or more rescuers involved in child or infant CPR (if only 1 rescuer involved a rate of 30 compressions: 2 breaths)
- If the chest does not rise after the first breath, reposition the person's head by doing a head-tilt/chin-lift and then give another breath. If that doesn't work, begin CPR again but instead of giving rescue breaths after 30 chest compressions, look in the person's mouth. If you see an object, carefully remove it by sweeping one finger behind the object and lifting it out. Once breaths go in, continue CPR normally.

9. Once you get AED, open and turn it on

10. Apply the AED pads:

- Remove any clothing, jewelry, and medical patches that could come in contact with the pads.
- Use the appropriate size of pads (adult or child or baby) and place the pads at least 2.5 cm apart.

Follow the AED's automated prompts

11. When the AED prompts you to do so, deliver a shock:
 14. Ensure that you nor anyone else is touching the person.
 15. Press the "shock" button to deliver a shock.
-
12. Resume CPR, starting with compressions.
-
13. Continue to follow the AED's automated prompts

Skill Notes

- a. If AED the appropriate pads size unavailable, use the pads that are available.
- b. If there is not enough space on the chest, place one pad on the chest and one on the back.
- c. The chest must be dry for the pads to properly adhere to the skin. If the chest is wet, dry it before applying the pads to the skin.
- d. If the victim has an implanted pacemaker, apply the AED pads approximately 2.5 cm away from a pacemaker.
- e. You must remove a person from water before using an AED. It is safe to use an AED on ice or snow.
- f. Using a phrase such as "I'm clear, you're clear, everybody's clear" can help you ensure that no one is touching the person before you push the "shock" button.

Attention: Give awareness on avoiding the exercise on live person: Risks of poor performance (Deep chest compression), accident or disease contamination (mouth to mouth).

LESSON 8: Fractures

a. Learning objectives

At the end of this lesson, students will be able to apply first aid techniques in case of fractures.

b. Teaching resources

As a facilitator, use the learning activity 5.2.5 in the students' book. Draw picture A and B on a manila paper, flipchart etc. and copy the activity questions on the black board or flipchart or read the activity directly from students' book.

c. Prerequisites

Students will learn better the content of this lesson if they have a good understanding of the anatomy and physiology of musculoskeletal system and integumentary system. The students should also be able to recall and apply bandaging related techniques. Moreover, knowledge of ethical principles and code of conduct is also paramount.

d. Learning activities 5.2.5

Guidance

Before introducing the lesson, ask students to attentively observe the pictures of the assigned learning activity 5.2.5. Then ask them to attempt answering this activity. Once these questions are answered, invite students to practice the skill of immobilizing these fractures based on what they have learnt on bandaging.

As a facilitator, you are expected to guide students through the following steps:

- Randomly choose students to respond to question one to three of the learning activity ensuring all gender participation
- Form a groups of 4 to 6 students depending on their performance results
- Give students three to five minutes to practice on each other the skill in their small group following based on bandaging knowledge and skill gained in previous lessons
- Move around groups guiding and facilitating them accordingly
- Invite randomly two or three group demonstrate the skill to others
- Ask other groups to comment briefly on what have been demonstrated and ask for related clarification if needed
- Build on what students have done and give more clarification and or demonstrate the skill ensuring every learner can hear what you are explaining and or demonstrating. Ensure you highlight the differences pertaining specific age groups for chocking relief.
- Finally, assess the lesson by letting students attempt application activity 5.2. students can do this exercise either in the course of this lesson if there is still time or as home work. Make sure you mark the students' homework.

Answer to learning activity 5.2.5

Answer to question 1:

A fracture is a break or crack in the continuity of the bone

Answer to question 2:

Picture A represent an open fracture (fracture in which there is an open wound or break in the skin near the site of the broken bone) while picture B represent a closed fracture (fractures in which the skin is unbroken although the bone ends may damage nearby tissues and blood vessels). Not that depending on the location and severity, the area around the fracture may also be damaged (organs, nerves or blood vessels).

Answers to self-assessment 5.2.5

Answer to question 1:

- Wrong – it is a hazardous intervention as this can worsen the victim condition there for breaching principles of first aid
- Right – the victim should not be moved unless it is dangerous to stay at that place. If the victim has to be moved it has to be done gently to prevent making the fracture worse (e.g. a closed fracture may become an open fracture) and to lessen the person's pain.
- Right – the fracture should be immobilized in the position you find them in, never attempt to manipulate or correct an abnormally positioned bone or joint.
- Wrong – never attempt to push the bone back in (if open fracture) and/or straighten the extremity.

Answer to question 2:

- Refer to the technique of bandaging in unit 2
- Use the immobilization skill checklist below

Splinting **First Aid** Skill Checklist

- | |
|------------------------------------------------------------------------------------|
| 1. Check circulation below the injured area before splinting. |
| 2. Splint the injured part in the position in which it was found |
| 3. Make sure the splint is long enough to extend above and below the injured area. |
| 4. Pad a rigid or anatomical splint to make the person more comfortable. |
| 5. Recheck circulation below the injured area after splinting |

Skill Notes

- a. Remove any jewelry that the person is wearing below the site of the injury.
- b. Check for normal temperature and skin color below the injured area before and after immobilizing the limb:
 - If the area is cold before immobilizing, call EMS (SAMU – 912).
 - If the area is cold after immobilizing, or if the person feels numbness and/or tingling, gently loosen the splint.
- c. Do not try to straighten or move the injured body part.
- d. For bone injuries, immobilize the joint above and below the site of the injury.
- e. For joint injuries, immobilize the bones above and below the site of the injury.
- f. If you are not sure what is injured, splint both the bones and the joints above and below the injury.
- g. Common items such as rolled newspapers, scarves, belts, and pillows can be used to improvise slings and splints if commercial ones are not available.

Applying a Regular **First Aid** Sling Skill Checklist

1. Check the person's circulation of the injured arm.
2. Have the person hold the injured arm across his or her body.
3. Slide a triangular bandage under the injured arm.
4. Bring the bottom end of the bandage over the shoulder of the injured side and tie the ends together behind the neck.
5. Secure the elbow by twisting, tying, or pinning the corner of the bandage.
6. Secure the arm to the body by applying a binder:
 - Wrap a broad bandage around the injured arm and the body.
 - Tie the bandage snugly at the uninjured side.
7. Recheck circulation

Skill Notes

- a. Remove jewelry below the site of the injury, if possible.
- b. Check for normal temperature and skin color below the injured area before and after immobilizing the limb:
 - If the area is cold before immobilizing, call SAMU
 - If the area is cold after immobilizing, or if the person feels numbness and/or tingling, gently loosen the bandages.
- c. Pad slings to increase comfort.
- d. Tying the bandage toward one side of the neck, and not at the back, can reduce discomfort caused by the knot.
- e. Adjust the height of the sling before tying the ends together to make sure the sling is supporting the arm..

LESSON 9: Hemorrhage

a. Learning objectives

At the end of this lesson, students will be able to apply first aid techniques in case of hemorrhage.

b. Teaching resources

As a facilitator, use the learning activity 5.2.6 in the students' book. Draw picture A, B and C on a manila paper, flipchart etc. and copy the activity questions on the black board or flipchart or use the student book and ask the students to open their book on the page where this activity is located, ask them to observe carefully the pictures and select one learner to read the activity directly from students' book.

c. Prerequisites

Students will learn better the content this lesson if they have a good understanding of cardiovascular system anatomy and physiology. The students should also be able to recall and apply bandaging related techniques. Moreover, knowledge of ethical principles and code of conduct is also paramount.

d. Learning activities 5.2.6

Guidance

- Before introducing the lesson, ask students to carefully observe the pictures of learning activity 5.2.6. Then ask them to attempt answering learning activity related question.
- As a facilitator, you are expected to guide students through the following steps:
- Randomly choose students to answer learning activity questions
- Get three to four opinions for each learning activity question allowing students to challenge each other and ensuring all gender participation
- Build on students' responses and give more clarifications on the topic ensuring every learner can hear what you are explaining
- Invite two pairs of volunteer students to demonstrate to others how to control bleeding by use of improvised tourniquet as it is a common occurrence to face bleeding victim who require a tourniquet without having an appropriate commercial tourniquet. Encourage gender participation; if require select randomly students to form these two pairs of students.
- Give this two pairs of students three to five minutes to practice on each other the skill providing necessary facilitation and guidance
- Allow other students to comment briefly on what have been demonstrated and ask for related clarification if needed.
- Build on what students have done and or responded on given comments and asked question to provide more clarification and or demonstrate the skill ensuring every learner can hear what you are explaining and or demonstrating if required.
- Introduce the concepts of internal bleeding and nose bleeds and challenge students to tell you what they think can be done to help victim in such conditions.
- Allow three to four opinions and then build on these to provide more clarifications and demonstrate how a nose bleed victim can be assisted ensuring every learner can hear what you are explaining and or demonstrating.

Answers to learning activity 5.2.6

Answer to question 1:

Three bleeding wounds

Answer to question 2:

Refer to student book to give difference of three main types of external bleeding

Answer to question 3:

Refer to student book on first aid care for external bleeding which include applying direct pressure, compressive dressing and use of tourniquet. Do not forget to emphasize the importance of DRSABCDE approach to any casualty for comprehensive care

Answers to self-assessment 5.2.6

1. Important observations that may indicate if someone has an internal bleeding include:
 - Rapid, shallow, or irregular breathing
 - ‘Guarding’ of the abdomen, with foetal position if lying down
 - Pain or discomfort and/or swelling of the abdomen
 - Nausea and/or vomiting
 - Altered consciousness
 - Pale, clammy skin
2. The following is the first aid which is done for someone with a nosebleed (Epistaxis):
 - After ensuring that the scene is safe and protective equipment is on, press both sides of the nostrils just below the bony portion of the nose for a minimum of 5 to 10 minutes.
 - Sit the casualty upright and lean his/her body and head slightly forward. This will keep the blood from running down his/her throat, which can cause vomiting.
 - If bleeding continues, try holding pressure for an additional 10 minutes.
 - If bleeding continues after this the victim has trouble breathing or shows signs of severe distress, seek further medical care

LESSON 10: Loss of consciousness Or fainting

a. Learning objectives

At the end of the lesson, students will be able to;

- Explain Fainting
- Describe the first aid management of fainting

b. Teaching Resources

- Student book with pictures
- Video/ movies showing fainting and its first aid management available on YouTube

c. Prerequisites

To better understand this lesson, students must recall concepts of vital signs learned in senior 4, and the physiology of central nervous system and cardiovascular system. The mostly concepts that came to play will include blood pressure, heart rate, blood circulation in the brain and heart conduction system.

d. Learning activity 5.2.7

Guidance

- Form groups of 3 to 5 students.
- Ask students to attempt the activity 5.2.7 which leads students to the 10th lesson of this unit.
- Move around groups guiding and facilitating them.
- Select like 2 groups to share their answers to the whole class by requesting the group representative to write them on the chalkboard or flipchart.
- Ask other groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented findings.
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability or visual impairment get what you say.

Answers to learning activity 5.2.7

Answer to question a.

Prolonged standing was revealed to reduces the blood supply to the muscles resulting in the acceleration of the onset of fatigue and causes pain in the muscles of the legs, back and neck, as well as pooling of blood in the legs and feet which leads to varicose veins. This subsequently decreased blood flow to the brain and the person pass out. Mr. X in image A, fainted as a results of decrease of blood supply to the brain due to exhaustion from longtime standing.

Answer to question b.

The guy in image B is raising Mr. X legs up. Elevating the patient legs who fainted improve blood return to the heart through vein which were dilated. Usually because pressure in the vein is low, blood return from legs work against gravity to return to the heart. Raising legs put them above the level of the heart meaning that the gravity become low then blood return to the heart become easy. Once the heart has enough cardiac output more oxygenated blood is delivered to the brain and then the fainted patient regains consciousness.

It is important to always follow DRSABCDE approach when giving feedback to students.

Answer to self-assessment 5.2.7

Answer to question 1:

Signs and symptoms of fainting include

- Pale, cold and clammy skin
- Slow, weak pulse
- Yawning
- Light-headedness.

Answer to question 2:

The sequential order to help the fainted person is done as follow

1	2	3	4	5	6	7	8	9	10
d	j	g	b	h	f	e	a	i	c

LESSON 11: Snake bites

This is the eleventh lesson of unit 5 and is a single lesson. This means that it has only one period (40 minutes). The classroom or skill's lab setting can be used for teaching this lesson.

a. Learning objectives

At the end of this lesson, students will be able to apply first aid techniques in case of snake bites.

b. Teaching resources

As a facilitator, use the learning activity 5.2.8 in the students' book. copy the learning activity questions on the black board or flipchart or use the student book and ask the students to open their book on the page where this activity is located, then ask a volunteer or choose randomly one learner to read loudly the activity directly from students' book while others are attentively listening. Then after challenge students to respond to learning activity related questions

c. Prerequisites

Students will learn better this lesson if they have a good understanding of the anatomy and physiology of cardiovascular, respiratory and integumentary system. The students should also be able to recall and apply bandaging related techniques. Moreover, knowledge of ethical principles and code of conduct is also paramount. Revise with students bandaging and splinting.

d. Learning activities 5.2.8

Guidance

Before introducing the lesson, ensure the learning activity 5.2.8 questions are loudly read and carefully listen to by students. Then ask students to attempt answering these question.

As a facilitator, you are expected to guide students through the following steps:

- Randomly choose students to answer learning activity questions
- Get three to four opinions for each learning activity question allowing students to challenge each other and ensuring all gender participation
- Build on students' responses and give more clarifications on the topic ensuring every learner can hear what you are explaining
- Invite two pairs of volunteer students to demonstrate the Pressure Immobilization Technique (PIT) skill. Encourage gender participation; if require select randomly students to form these two pairs of students.
- Give this two pairs of students three to five minutes to practice on each other the skill providing necessary facilitation and guidance
- Allow other students to comment briefly on what have been demonstrated and ask for related clarification if needed
- Build on what students have done and or responded on given comments and asked question to provide more clarification and or demonstrate the skill ensuring every learner can hear what you are explaining and or demonstrating if required.
- Finally, assess the lesson by letting students attempt application activity 5.2.8 students can do this exercise either in the course of this lesson if there is still time or as home work. Make sure you mark the students' homework.

Answers to learning activity 5.2.8

Question 1:

This is an emergency situation that require quick intervention to prevent poor outcome and or death from snake bite.

Question 2:

Refer to student book for principles for treating any kind of snake bite. Do not forget to emphasize the importance of DRSABCDE approach to any casualty for comprehensive care

Answer to self-assessment 5.2.8

Question 1:

- a. Wrong intervention** - the use of tourniquet in snake bite should be avoided as there is likelihood of swelling that may result in loss of the limb

- b. Wrong intervention** - a snake bite victim should not move and particularly moving the bitten part. The more it is moved, the faster the poison will spread through the body.
- c. Right intervention** - taking a short clip of the snake that was leaving the scene of incident may give clue to venom involved
- d. Right intervention** - reassured the victim is important and this will likely enhance the victim compliance and collaboration
- e. Wrong intervention** - both widening a snake bite wound and to wash out the venom are intervention to avoid as a sample to identify the type of venom may be required.

Question 2:

Refer to student book on care and treatment for a snake bitten victim ensuring the responses include the DRSABCDE approach, the DONTs of care and the Pressure Immobilization Technique

LESSON 12: Epilepsy / Seizures

a. Learning objective

At the end of the lesson, students will be able to apply first aid techniques in case of epilepsy

b. Teaching resources

Skills lab equipped with mannequin, mattress, pillow, blanket, flowchart. Flipchart, Student book. Video on first aid in case of epilepsy free-downloaded from YouTube, projector.

c. Prerequisites

Students will learn better this lesson if they have a good understanding of the anatomy and physiology of nervous and muscular systems. Briefly recall situation in which seizure suggest infection, hypoglycemia, neurological attack.

d. Learning activity 5.2.9

Guidance

Before introducing the lesson, ensure the learning activity 5.2.9 questions are loudly read and carefully listen to by students. Then ask students to attempt answering these question.

- Randomly choose students to answer learning activity questions
- Get three to four opinions for each learning activity question allowing students to challenge each other and ensuring all gender participation
- Permit students to ask questions, review popular cultural views and prejudices about epilepsy.

- Build on students' responses and give more clarifications on the topic ensuring every learner can hear what you are explaining
- Finally, assess the lesson by letting students attempt application activity 4.2.9 students can do this exercise either in the course of this lesson if there is still time or as home work. Make sure you mark the students' homework.

Answers to learning activity 5.2.9

Answer for activity 1:

Seizures consist of involuntary contractions of many muscles in the body as a result of a disruption in electrical activity of the brain. This is associated in most of the time with epilepsy.

Answer for activity 2:

Refer yourself to student book for the answers. Note that the important aspect of first aid care for seizures crisis is maintaining an open, clear airway and a monitoring of the casualty's level of response, breathing, and pulse along protecting the victim from further harm during a seizure. Consider DOs and DON'Ts in epileptic seizures first aid and arrange appropriate aftercare once he or she has recovered.

Answer to self-assessment 5.2.9

Stay calm and help the victim following Dos and DONTs for epileptic seizures first aid in student book. Note that the important aspect of first aid care for seizures crisis is maintaining an open, clear airway and a monitoring of the casualty's level of response, breathing, and pulse along protecting the victim from further harm during a seizure. Arrange appropriate aftercare once he or she has recovered.

5.6. Summary of unit

First aid referred as "**Emergency aid**" or immediate care is the first skilled or acceptable assistance given to a victim (sick or injured) on the occurrence of accident or sudden illness in order to preserve life, prevent further injury and relive suffering until qualified medical care is available. For minor conditions, first aid care may be enough while for serious or complex problems, first aid care should be continued until more advanced care becomes available. The person who provide this emergency aid is called a first aider and has a responsibility to keep everyone involved safe while taking care of the victim. In triaging victim on the scene "START" system which is a simple way that allows rapid assessment of victims within 15 seconds per casualty/victim is used.

The first aid should do be done is an organized manner that follow DRSABCDE sequence. DRSABCDE involve checking and addressing issues related to Dangers (for the first aider, the victim and others involved people), Response (a quick assessment to find out whether a casualty is conscious or unconscious), Shout or Send for help, Airway maintenance with cervical spine protection, Breathing and ventilation, Circulation with hemorrhage control, Disability and Exposure.

An associate nurse should be able to provide first aid to victim suffering burns, drowning, choking, cardiorespiratory distress, fracture, hemorrhage, fainting, epilepsy, and snake bite.

5.7. Additional information for teachers

- Many people whose seizures are well-controlled or only occur sporadically and are not “severe” or long, and may only need daily seizure medicine.
- Seizures can either be partial or generalized and can happen in both conscious and unconscious victims.

Guidance for Skills Laboratory or practical exercise

To acquire practical competence, a specific practical skill training facilities is used. It offers a part of training in first aids and clinical procedures in a safe and fault-forging environment prior to real life application at bedside or elsewhere. Skills lab training follows a structured teaching concept, takes place under supervision and in consideration of methodological didactic concepts, ideally creating an atmosphere that allows the repeated, anxiety and risk-free practice of targeted skills. It plays a key role in training quality assurance. The procedures are practiced, and evaluated until the required minimum standard for patient care is ensured. All students are given the opportunity to perform these procedures independently. Through skills lab, students are given the possibility to prepare themselves meticulously prior to clinical placement as they work in peer-assisted learning.

Applying a Tourniquet First Aid Skill Check Sheet

Learner’ s Name: _____ Date: _____

Steps	Successfully Demonstrated	
	Yes	No
1. Apply a tourniquet 5 to 10 cm above the injury. If there is a joint within this range, apply the tourniquet above it, at least 2.5 cm away from the join		
2. Tighten the tourniquet until the bleeding stops		
3. Secure the tourniquet in place		
4. Document the time the tourniquet was tightened		

Skill Notes

- a. You should only apply a tourniquet in the following situations:
 - The person has life-threatening external bleeding that cannot be controlled using direct pressure.
 - The person is in a physical location that makes it impossible to apply direct pressure (e.g., the person or the person's injured limb is trapped in a confined space).
 - You must move the person and are unable to maintain direct pressure while doing so.
- b. A commercially manufactured tourniquet is preferred over an improvised device.
- c. Once a tourniquet is in place, you should not remove it for any reason.

Comments:

Severe External Bleeding First Aid Check Sheet

Learner's Name: _____ Date: _____

Steps	Successfully Demonstrated	
	Yes	No
1. Apply firm, direct pressure to the wound		
2. Check circulation below the injury before applying a bandage		
3. While maintaining direct pressure, apply a dressing and bandage it in place.		
4. Call EMS (SMU – 912) if you have not already done so		
5. Check circulation below the injury after applying bandage. If circulation is reduced, loosen the bandage		
6. Reassess the wound. If direct pressure does not control the bleeding, consider using a tourniquet if the wound is on a limb.		

Skill Notes

- a. If you are alone, immediately begin providing care for life-threatening external bleeding. Call for EMS (SAMU – 912) as soon as you are able to do so.
- b. Use clean, sterile dressings.
- c. Exposing a wound can help to assess the degree of bleeding. Do not delay applying direct pressure to instead expose a wound. If possible, expose the wound while maintaining direct pressure.
- d. If blood soaks through the bandage, apply another bandage on top instead of removing the soaked one.

Example of first aid kit content

No	Item	Qty.
1	Instructions for providing first aid – including Cardio-Pulmonary Resuscitation 1 (CPR) flow chart	1
2	Note book and pen	1
3	Resuscitation face mask or face shield	1
4	Disposable unsterile gloves	10 pairs
5	Gauze pieces 10 x 10 cm, sterile (5 per pack)	5 packs
6	Saline 500ml	2
7	Alcohol swab	10
8	Adhesive dressing strips (packet of 50)	1
9	Non-adherent wound dressing different sizes	20
10	Conforming cotton bandage, 5 cm width	2
11	Conforming cotton bandage, 7.5 cm width	3
12	Crepe bandage 10 cm (for serious bleeding and pressure application)	2
13	Crepe bandage 15 cm (for serious bleeding and pressure application)	2
14	Scissors	1
15	Tweezers / forceps	1
16	Non-stretch, hypoallergenic adhesive tape – 2.5 cm wide roll	1
17	Safety pins (packet of 6)	1
18	Dressing – Combine Pad 9 x 20 cm	1
19	Plastic bags - clip seal	1
20	Triangular bandage (calico or cotton minimum width 90 cm)	2
21	Emergency rescue blanket (for shock or hypothermia)	1

22	Eye pad (single use)	4
23	Instant ice pack (e.g. for treatment of soft tissue injuries and some stings)	1
24	Band Aids	10
25	Ice Pack	1
26	Thermometer	1
27	First aid kit checklist	1
28	Paracetamol tablets	10
29	Package absorbent sterilized cotton 15 g	2

5.8. Answers for End Unit assessment

1. ABCDE stand for Airway maintenance with cervical spine protection, Breathing and ventilation, Circulation with hemorrhage control, Disability and Exposure
2. a
3. c
4. b
5. c
6. a. this unresponsiveness status might be resulting from choking
b. As a first aider at the premises I will initiate choking interventions (for more detail refer to student book)
7.
 - A. I would first ensure the safety of the scene.
 - B. Using STAT approach, I would attend first to the victim who is bleeding a lot on his left leg by applying tourniquet on his leg to stop bleeding. Then go to the second victim using ABCDE approach and attempt to rescue him/her.
 - C. Bleeding control is done is a stepwise approach as follow

Bleeding is controlled by applying pressure on the bleed are
Whenever possible, elevated the bleeding area above the level of the heart
If there are multiple wounds, apply pressure dressings to the worst injuries first, and then to the lesser bleeding injuries.
If necessary, apply a tourniquet 5 to 10 cm above the injury. If there is a joint within this range, apply the tourniquet above it, at least 2.5 cm away from the join
Tighten the tourniquet until the bleeding stops
Secure the tourniquet in place
Document the time the tourniquet was tightened

Note that

You should only apply a tourniquet in the following situations:

The person has life-threatening external bleeding that cannot be controlled using direct pressure.

The person is in a physical location that makes it impossible to apply direct pressure (e.g., the person or the person's injured limb is trapped in a confined space).

You must move the person and are unable to maintain direct pressure while doing so.

A commercially manufactured tourniquet is preferred over an improvised device. Once a tourniquet is in place, you should not remove it for any reason.

D. The patient has suffered an open fracture on his right forearm. To immobilize such fracture, we use the checklist below (put checklist)

8. b

9. d

5.9. Additional activities

5.9.1. Remedial activities

The use of the following remedial activities will help slow students or those students who had issues leading to poor performance to eliminate their weaknesses or deficiencies. And then give the opportunity to answer to the following questions.

1. Define First aid

Answer

First aid is basic emergency treatment and immediate assistance given to an injured or sick person when high-level medical care is not available. For more details, refer to student book concepts for first aid.

2. What does the acronym DRSABCDE stand for?

Answer:

Dangers (for you as a first aider, the victim and others involved people), Response (a quick assessment to find out whether a casualty is conscious or unconscious), Shout or Send for help, Airway maintenance with cervical spine protection, Breathing and ventilation, Circulation with hemorrhage control, Disability and Exposure.

3. What are the signs of mild airway obstruction?

Answer:

- Good air exchange
- Can cough forcefully

- May wheeze between coughs

4. When can you start a CPR?

Answer:

CPR should be started if the victim has no pulse, stops breathing or only gasping for air and becomes unconscious.

5. For how long should you do CPR?

Answer:

CPR can be stopped only if the victim become responsive or when rescuers are physically exhausted or decision to stop is made by a doctor.

6. Perform a 5 minutes long in CPR on mannequin in skills lab

Answer:

Use the CPR/AED first aid skill checklist

7. a. What do you understand by recovery position?
b. In skills demonstrate steps of putting a victim in recovery position on a model mannequin in skills lab

Answer

7a – it is a position used in emergency situation in which the victim is put in lateral position to maintain an open airway while preventing aspiration in an unresponsive victim

7b use recovery position first aid skill checklist

5.9.2. Consolidation activities

The practical nature of learning this unit can culminate in scenarios that will help students integrate theory, practical and behavioral skills such as communication, delegation, organization and teamwork related to first aid and emergency care. In skills lab, with all equipment provided, students will get the chance practice various techniques learnt. The role of the teacher in these activities will be to facilitate students i.e. round up to guide as students accordingly and conduct debrief sessions pointing out key point to remember.

1. On the school football field, students were playing and accidentally two of them hit each other resulting into loss of consciousness in one of them and a bleeding wound on the forehead of the other. In a group of 5 to 6 students, 2 of them simulate the situation while others take the role of first aider and other the role of bystander to help the victims.

Answer:

- a. For both victims:
 - Students should address issues pertaining to triage and DRSABCDE
- b. For victim 1 – refer to fainting first aid in student book
- c. For victim 2 – refer to first aid of a bleeding victim

Note: you can challenge various students' groups depending on how they are performing.

Play agree / disagree game.

Designate one side of the room as AGREE and the other side DISAGREE. Read the statements below. Ask students to move to the appropriate side of the room according to what they think the right answer is. Read the following statements one by one and review the correct answer. Make sure all the students walk to the side of the room that represents their answer.

- a. Bleeding is life threatening.

Answer: Disagree.

Not all bleeding are life threatening. Only severe bleeding with massive blood loss is life threatening

- b. A person with severe bleeding can go into shock.

Answer: Agree

- c. Applying pressure to the wound with a clean cloth or dressing will help to stop the bleeding.

Answer: Agree

- d. A tourniquet the first line treatment option for severe bleeding.

Answer: Disagree.

The first line treatment option in severe bleeding is applying pressure. Tourniquet can only be used when applying pressure has failed.

- e. If bleeding seeps through the bandage remove it.

Answer: Disagree.

Add another dressing over the first and call for help.

5.9.3. Extended activities

1. How is the fracture different from a sprain or other injury

Answer:

Difference between fractures and sprains:

Fractures are injuries where a bone is actually broken. Sprains are when a bone is bruised, strained, stretched, or painful. Broken bones can be closed (no wound at the site of the break), or open (has a wound at the site or the bone is sticking out of the skin).

2. Enumerate other animals others than snakes from our environment that can cause bites injury requiring emergent intervention.

Answer: dogs, scorpions, spiders, bees

3. Though all snake bites are considered venomous, based on snake bite pertain on inspection, differentiate non- venomous from venomous snake bite pertain likelihood

Answer:

The bite marks from venomous snakes generally have one or two punctures that are deeper than the others, which are from the snakes' fangs.

The bite marks from non-venomous snakes are usually abrasions, with no punctures that are deeper than the others.

6.1. Key unit competence

Apply correctly the techniques of victim's evacuation during emergencies

6.2. Prerequisites

Students will learn better to do appropriate first aid actions about the selected emergency conditions of selected body systems if they have understanding of the internal and external structures of different body systems and their physiology; the basic nursing care including vital signs taking and infection control measures. The ethic and professional code of conduct are also included.

6.3. Cross-cutting issues to be addressed

d. Inclusive education

To ensure that learning is inclusive, as a facilitator: Place students with visual impairment in appropriate places. Those with short-sightedness (myopia) must sit on front desks in class. If you have children with low vision, remember to print in appropriate font size (large print). Those with long sightedness must sit on back desks.

e. Gender

This course requires the participation of both girls and boys. Make sure that all students are actively involved not only boys.

6.4. Guidance on the introductory activity

Before starting the first lesson of the unit of first aid care of the selected emergency conditions of selected body systems, ask students to attempt an introductory activity.

Guidance

- As a facilitator, form groups of 5 students depending on their class size
- Ask students to attempt all questions
- The learning activity is written in students' book
- Select like 3 groups to share their answers to the whole class and request one student to write answers on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.

Answers to introductory activity:

Answer to question 1:

Image A represent a mother who is helping her child who have an asthma attack

- Image B is showing a patient with high blood pressure (hypertension)
- Image C is showing a patient with hemorrhagic stroke veins were ruptured and there is bleeding in the brain, another showing ischemic stroke which occur when blood clotting blocks or narrows an artery leading to the brain.
- Image D is showing two persons who are protecting a patient with epilepsy from injury and to be stable.

Answer to question 2:

For the picture A and D you may think about quickly intervention or first aid for asthmatic attack and epileptic seizures

6.5. List of lessons /sub-headings

N°	Lesson title	Objectives	Number of periods
1	Brief anatomy and physiology of the respiratory system	Understand the anatomy and physiology of respiratory system	2
2	Asthma attack	<ul style="list-style-type: none">• Define Asthma attack• Understanding signs and symptoms of asthma attack	3
3	First aid interventions in case of asthma attack	Explain emergency nursing care interventions during asthma attack	3
4	Acute Respiratory distress (ARD)	<ul style="list-style-type: none">• Define Acute Respiratory distress (ARD)• Understand signs and symptoms of ARD• Understand causes of ARD	2
5	First aid in difficult breathing due to ARD	Explain the first aid in difficult breathing due to ARD	2

6	Brief review on blood pressure physiology and blood pressure measuring	<ul style="list-style-type: none"> • Define BP • Analyze blood pressure readings • Describe the correct position for taking blood pressure 	2 Periods
7	Hypertensive Crisis	<ul style="list-style-type: none"> • Define Hypertensive crisis • Understand the signs and symptoms of hypertensive crisis 	3 Periods
8	First aid for acute hypotension	<ul style="list-style-type: none"> • Explain the signs and symptoms of acute hypotension • Understand immediate interventions in acute Hypotension 	2
9	Heart attack	Understand the signs and symptoms of heart attack	3
10	First aid intervention for heart attack	Understand the first steps in heart attack	3
11	Stroke	Explain the signs and symptoms of stroke	3
12	First Aid in Stroke	Understand the first steps in dealing with stroke	3
13	Epilepsy	<ul style="list-style-type: none"> • Define epileptic seizure • Understand epileptic seizure signs and symptoms 	3
14	First aid for epilepsy	Understand the first steps in epileptic seizures	2
15	Skills lab	Perform first aid care during asthma attack, hypertensive crisis, heart attack, stroke, acute hypotension and epileptic seizures.	11
16	End unit assessment		2
	TOTAL		49

LESSON 1: Brief anatomy and physiology of the respiratory system

This lesson will be thought in 2 periods and include the introductory activity.

a. Learning objective

At the end of the lesson, students will be able to understand the anatomy and physiology of respiratory system

b. Teaching resources

The needed teaching resources are: computer, projector, the students' book, Manila paper and or flipchart, black board and chalk.

c. Pre-requisites

Students will better understand if they have some introduction on anatomy and physiology of respiratory system

d. Learning activity

Guidance

- Consider the introductory activity for this lesson
- Ask students what they already know about respiratory system
- Ensure both males and females participate

LESSON 2: Asthma attack

This lesson will be thought 3 periods.

a. Learning objective

At the end of the lesson, students will be able to:

- Define signs and symptoms of Asthma attack. Define Asthma attack
- Understanding signs and symptoms of asthma attack

b. Teaching resources

The teacher will ensure the availability of material such as computer, projector, lung model/poster, illustrated pictures in the students' book and pictures for Learning activity, manila paper and or flipchart, black board and chalk, an inhaler, emergency kit

c. Pre-requisites

Students will better if they have some introduction on anatomy and physiology of respiratory system and acute respiratory distress.

d. Learning activity

Guidance

- As a facilitator, form groups of 4 students depending on their class size
- Ask students to attempt the attempt activity 5.1.1
- Move around groups guiding and facilitating them
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- The learning activity 6.1.1 is written in students' book. However, you can use the pictures and ask more questions to the students.
- Select like 3 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability or visual impairment get what you say.

Answers to activity 6.1.1

Answer to question 1:

Image A is showing someone who is coughing with shortness of breath, wheezing (high pitched whistling) and chest tightness.

Answer to question 2:

On picture B he is inhaling the medication

Answers to self-assessment 6.1.1

Answer to question 1: attack

Answer to question 2: True

Answer to question 3: True

Answer to question 4: Signs that might indicate that I may be about to have an asthma attack are:

- Frequent cough, especially at night
- Reduced peak flow meter readings
- Losing your breath easily or shortness of breath

- A tight chest
- Feeling very tired or weak when exercising
- Wheezing or coughing during or after exercise (exercise-induced asthma)
- Feeling tired, easily upset, grouchy, or moody
- Decreases or changes in lung function as measured on a peak flow meter
- Trouble sleeping with nighttime asthma

Answer to question 5: Treatment

LESSON 3: First aid interventions in case of Asthma attack

a. Learning objective

At the end of the lesson, students will be able to explain emergency nursing care interventions during asthma attack

b. Teaching resources

The teacher will ensure the availability of material such as computer, projector, lung model/poster, illustrated pictures in the students' book and pictures for Learning activity, manila paper and or flipchart, black board and chalk, an inhaler, emergency kit

c. Pre-requisites

Students will better if they have some introduction on anatomy and physiology of respiratory system and acute respiratory distress of unit 4 medical pathology, nursing assessment

d. Learning activity 6.1.2

Guidance

- The teacher invites students to use their book and observe the picture 6.1.2
- Help the students to form groups of 4 students, depending on the size of the class.
- In a brain storming way, the teacher also discusses on how to recognize triggers and a patient who is going to have an asthma attack and the great danger to delay the action.
- Then ask the volunteer (4 volunteers) to explain what he/she finds.
- The teacher allows students to give their own opinion and give the conclusion.
- The teacher emphasizes on the rapidity of the actions to be taken. Students conclude with a plan
- Encourage student to take notes

Answers to learning activity 6.1.2

Answer to question 1:

Picture A is showing asthmatic patient who is inhaling medications through inhaler and she is surrounded by different allergens (triggers)

Answer to question 2:

Picture B shows the patient who is experiencing chest pain, difficult breathing and coughing

Answer to question 3:

The picture 3 shows material (nebulizer) which is a device that turns the liquid medicine into a mist which is then inhaled through a mouthpiece or a mask

Answer to Self-assessment 6.1.2

1. Answer to question 1: C
2. First aid interventions for a person with asthma attack:
 - Sit the person comfortably upright, remain calm and speak calmly to patient and do not the person alone
 - Remove any obvious triggers in immediate patient environment area
 - Give 4 puffs of reliever inhaler (e.g., Ventolin) and use a spacer if available. Give 1 puff at a time with 4 breaths after each puff. Use the person's own inhaler if possible, otherwise use the one in a first aid kit or borrow one
 - Wait for 4 minutes, if the person still cannot breathe normally give more 4 puffs
 - If the person still cannot breathe normally Call an ambulance (SAMU – 912) and say that the person is having an asthma attack. And keep giving reliever every 4 minutes till the ambulance arrives (4 puffs each time are safe dose for children; in adults with a severe attack, you can give up to 6 – 8 puffs every 4 minutes)
 - Keep monitoring the person and never leave him or her alone
3. In a healthcare facility setting:
 - Start treatment immediately
 - Semi-sitting position
 - Give O₂ to keep saturation above 90%
 - Start short acting Beta 2 agonist nebulization (e.g., Salbutamol 5 mg in 5 ml of normal saline over 10 minutes repeated ½ hour later)

- Hydrocortisone 100 mg IV every 6 hours
- Assess the need of ventilation according to the response to therapy
- Avoidance of the triggering agent if known

LESSON 4: Acute Respiratory distress (ARD)

This lesson will be thought in two periods and covering the learning activity, definition, signs symptoms relate to ARD

a. Learning objective

At the end of the lesson, students will be able to:

- Define ARD
- Understand signs and symptoms of ARD
- Understand causes of ARD

b. Teaching resources:

The needed teaching resources are: computer, projector, illustrated picture in the students' book, manila paper and or flipchart, black board and chalk.

c. Pre-requisites

It will be better if the students have knowledge on anatomy and physiology of respiratory system, pneumonia, sepsis, acute pancreatitis, blood transfusion

d. Learning activity

Guidance

- As a facilitator, form groups of 6 students depending on their class size
- Ask students to attempt all questions
- The learning activity is written in students' book
- Select like 2 groups to share their answers to the whole class and request one student to write answers on the chalkboard or flipchart.

Ask the remaining groups to add any ideas on what other groups have presented.

Allow the class to ask questions related to the presented topic.

Ask the students: Is there anyone in the family or the surrounding who experienced an acute respiratory distress (ARD)

If yes encourage the students to describe how it was and asked them signs and symptoms presented by him/her

Request students to observe the picture of this part in their book and answer the questions of learning activity

Answers to the learning activity 6.1.3

Answer to question 1:

Image A represent someone with acute respiratory distress with dyspnea, tachypnea, tachycardia, rapid and labored breathing, extreme tiredness and muscle fatigue, confusion, rapid heart rate, cough and chest pain

Answer to question 2:

Image B represent lungs which are damaged

Answer to question 3:

Image C represent a patient who is on machine due to ARD

Answers to self-assessment 6.1.3

Answer to question 1: b

Answer to question 2: c

Answer to question 3: c, d, and f

LESSON 5: First aid in difficult breathing due to ARD

This lesson will be thought in two periods

a. Learning objective

At the end of the lesson, students will be able to explain the first aid in difficult breathing due to ARD

b. Teaching resources:

The needed teaching resources are: computer, projector, the students' book, manila paper and or flipchart, black board and chalk.

c. Pre-requisites

Students will better understand if they have some introduction on anatomy and physiology of respiratory system of the lung if they have understood well the acute respiratory distress

d. Learning activity

Guidance

As a facilitator, tell the students to take the student book and ask them to read the learning activity and discuss the scenario and tell them to answer the learning activity in the group of 3 students

Answers to learning activity 6.1.4

To make him comfortable he should be in in prone position

Answers to self-assessment 6.1.4

Answer to question 1: b

Answer to question 2:

The first aid for patient with ARD outside of health facility includes:

- He/she should be in comfortable position which is prone positioning in order to improve oxygenation
- Check the person's airway, breathing, and pulse if no breathing and pulseless start CPR
- If patient have any medication help him to drink it , this will depend on the status of the patient
- Avoid to give the him/her food or drink.
- Avoid to place a pillow under his head
- Immediately call for help (SAMU – 912)

LESSON 6: Brief review on blood pressure physiology and blood pressure measuring

This is 2 periods lesson.

a. Learning objectives

At the end of the lesson, students will be able to:

- Define the Blood pressure
- Analyze blood pressure readings
- Describe the correct position for taking blood pressure

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have learnt cardiovascular system anatomy and physiology and taking vital signs.

d. Learning activity 6.2.1

Guidance

- As a facilitator, form groups of 5 to 6 students depending on their class size
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Ask students to attempt the learning activity 6.2.1
- Move around groups guiding and facilitating them
- Select randomly like 2 to 3 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Encourage and ensure both males and females participate both in presenting the work done, adding any missed idea on what is presented and in asking questions
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability get what you say.

Answers to learning activity 6.2.1

Answer to question 1:

This old man is checking his blood pressure

Answer to question 2:

Yes, he looks worried as per his facial expression and this is probably because he is having high BP

Answer to question 3:

Yes, he looks to be in the correct position for BP taking. For accurate BP measurement; the patient should be seated in a chair with feet flat on the floor, without crossed legs, with arm supported at heart level, for at least 5 minutes before taking the BP measurement.

Answer to question 1: c

Answer to question 2:

Mean BP (Mean arterial pressure) = (systolic BP + diastolic BP + diastolic BP)/3

Answer to question 3: false

LESSON 7: Hypertensive Crisis

a. Learning objectives

At the end of the lesson, students will be able to:

- Define Hypertensive crisis
- Understand the signs and symptoms of hypertensive crisis

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have learnt cardiovascular system anatomy and physiology and health assessment/ taking vital signs.

d. Learning activity 6.2.2

Guidance

- As a facilitator, form groups of 5 to 6 students depending on their class size
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Ask students to attempt the learning activity 6.2.2
- Move around groups guiding and facilitating them
- Select randomly like 3 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Encourage and ensure both males and females participate both in presenting the work done, adding any missed idea on what is presented and in asking questions

- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability get what you say.

Answers to learning activity 6.2.2

Answer to question a:

Picture A is showing high BP reading (240/126mmHg) that indicate the patient is in hypertensive crisis

Answer to question b:

Picture B is displaying various symptoms and signs that are related to hypertensive crisis such as headache, lightheadedness, heart palpitation, shortness of breath, bloody nose (epistaxis), nausea and anxiety.

Answer to question c:

With regard to image A and D, image C is trying to express that with time uncontrolled hypertension may affect vital organ such as kidney, heart and brain.

Answers to self-assessment 6.2.2

Answer to question 1:

Essential hypertension also called primary hypertension is a type of hypertension in which there is no identifiable underlying cause, and is the most common type of hypertension.

Answer to question 2:

- A hypertensive crisis event is a severe and potentially life-threatening increase in blood pressure therefore a medical emergency, in which the systolic blood pressure is $\geq 180\text{mmHg}$ and or diastolic blood pressure $\geq 120\text{mmHg}$.
- Hypertensive crises are classified as either hypertensive emergencies or hypertensive urgencies according to the presence or absence of acute target organ damage, respectively. Hypertensive emergencies include hypertensive encephalopathy, intracranial or subarachnoid hemorrhage, acute left ventricular failure with pulmonary edema, heart attack, renal failure, dissecting aortic aneurysm and eclampsia (during pregnancy).

Answer to question 3:

No, we should not aim obtaining normal BP reading values when treating hypertensive crisis because rapid or excessive blood pressure decreases may lead to renal, cerebral or cardiac ischemia. The goal should be to reduce the blood pressure by no more than 25% within minutes to 1 hour, then towards 160/100 within 2 to 6 hours.

LESSON 8: First aid for acute hypotension

a. Learning objectives

At the end of the lesson, students will be able to:

- Explain the signs and symptoms of acute hypotension
- Understand immediate interventions in acute Hypotension

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have learnt cardiovascular system anatomy and physiology and health assessment/taking vital signs.

d. Learning activity 6.2.3

Guidance

- As a facilitator, form groups of 5 to 6 students depending on their class size
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Ask students to attempt the learning activity 6.2.3
- Move around groups guiding and facilitating them
- Select randomly like 2 to 3 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Encourage and ensure both males and females participate both in presenting the work done, adding any missed idea on what is presented and in asking questions
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability get what you say.

Answers to learning activity 6.2.3

Answer to question a:

The picture shows a person who is feeling dizzy

Answer to question b:

The picture B represent BP measuring and it shows a systolic BP of 80mmHg

Answers to self-assessment 6.2.3

Answer to question 1: b

Answer to question 2:

Four types of hypotension are orthostatic or postural hypotension, postprandial hypotension, neutrally mediated hypotension, and severe hypotension that is linked to shock

Answer to question 3:

The main mechanisms behind severe hypotension also known as shock are:

- Decreased effective circulating volume (hypovolemic shock)
- Impaired cardiac output due to heart pump dysfunction or obstruction to cardiac filling (cardiogenic shock)
- Impaired peripheral i.e. loss of vascular tone (distributive shock)

LESSON 9: Heart attack

a. Learning objectives

At the end of this lesson, students will be able to classify coronary artery diseases, list coronary artery diseases risk factors and understand the signs and symptoms of heart attack.

b. Teaching resources

Video/ movies of coronary artery diseases downloaded from YouTube. Use illustrations in students' book (e.g. learning activity 6.2.4), projector, manila paper, flipchart, black board and chalks.

c. Prerequisites

Students will learn better the content of this lesson if they have a good knowledge of anatomy and physiology of cardiovascular system particularly coronary circulation, CVS medical pathology and health assessment.

d. Learning activities 6.2.4

Guidance

Before introducing the lesson, task students, to observe carefully pictures in the learning activity 6.2.4 and challenge them to figure out what they are representing and establish the existing relationship. As a facilitator, you are expected to guide students regarding this learning activity:

- Facilitate students to form groups of 5 to 6 students
- Ask the students to attempt the activity 6.2.4 available in their student book
- Move around to facilitate each group to do the activity
- Select randomly any two group to present their findings
- Ask the others groups to complement their colleagues

Answers to learning activity 6.2.4

The picture A represents risk factors for CAD while picture B represent angina pain. For more details regarding risk factors and characteristic of angina pain refer to student book content.

Answers to self-assessment 6.2.4

Answer to question 1:

c – When the coronary arteries are occluded, contractility ceases after several minutes, depriving the myocardial cells of glucose and oxygen for aerobic metabolism. Anaerobic metabolism begins, and lactic acid accumulates, irritating myocardial nerve fibers that then transmit a pain message to the cardiac nerves and upper thoracic posterior roots.

Answer to question 2:

Modifiable factors for CAD include high level serum cholesterol, smoking habits, obesity, diabetes, sedentary lifestyle and hypertension.

Answer to question 3:

By adequately assess this chest pain. The use of OLDCART acronym can be used to adequately assess this chest pain. that is onset, location, duration, characteristics, aggravating symptoms, methods to relieve the pain, current treatment. For instance, in chronic stable angina such pain is associated with a specific level of physical or emotional stress and reliably resolves with rest, relief of the stress, or nitroglycerin therapy and this last for less than 10 minutes while for unstable one, this last usually for 10 – 20 minutes.

LESSON 10: First aid intervention for heart attack

a. Learning objectives

At the end of the lesson, students will be able to understand the first steps in heart attack

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have learnt cardiovascular system anatomy and physiology and health assessment.

d. Learning activity 6.2.5

Guidance

- As a facilitator, form groups of 5 to 6 students depending on their class size
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Ask students to attempt the learning activity 6.2.5
- Move around groups guiding and facilitating them
- Select randomly like 2 to 3 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Encourage and ensure both males and females participate both in presenting the work done, adding any missed idea on what is presented and in asking questions
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability get what you say.

Answers to learning activity 6.2.5

Answer to question 1:

Image A shows an old man who is having severe chest pain related to blocked coronary artery.

Answer to question 2:

Image B shows an ambulance and an emergency call line 912

Answer to question 3:

Image C represents the process of resuscitation in which the ration of chest compressions and breaths is 30:2

Answer to question 4:

Image D displays an electro cardio-graph (ECG) (read I, II and III)

Answers to self-assessment 6.2.4**Answer to question 1: a****Answer to question 2: 1 – d; 2 – c; 3 – b; 4 – f; 5 – e; and 6 – a**

A patient having chest pain needs to have the pain assessed and relieved as quickly as possible. Applying oxygen may help relieve the pain. Following an assessment of the vital signs, it is important to know if the pain is accompanied by ECG changes. Then perform a detailed assessment of the pain using OLDCART and medicate as ordered. Perform a focused assessment of the heart and lungs before reporting the findings to the provider.

Answer to question 3:

No. Though CPR is often what comes to mind when people think of first aid for a heart attack or cardiac arrest, this is only part of a broader picture of what is needed for the victim survival. There are five steps that are important when helping someone with heart problems:

Early recognition and activation of emergency medical services system such as SAMU Call 912).

Early CPR with an emphasis on chest compressions.

Early defibrillation.

Effective advanced life support.

Integrated post-cardiac arrest care.

LESSON 11: Stroke

a. Learning objectives

At the end of the lesson, students will be able to explain the signs and symptoms of stroke

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have learnt cardiovascular and neuro systems anatomy and physiology and health assessment.

d. Learning activity 6.3.1

Guidance

- As a facilitator, form groups of 5 to 6 students depending on their class size
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Ask students to attempt the learning activity 6.3.1
- Move around groups guiding and facilitating them
- Select randomly like 2 to 3 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Encourage and ensure both males and females participate both in presenting the work done, adding any missed idea on what is presented and in asking questions
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability get what you say.

Answers to learning activity 6.3.1

Answer to question 1:

Category A images represent risk factors, category B images represent the pathology (Stroke) and attempt to categorize stroke as obstructive and hemorrhagic and category C images represent signs and symptoms of stroke

Answer to question 2:

Factors such as smoking, high fatty food diet, alcoholism, hypertension, stress and inactive lifestyle predisposes to stroke that may manifest with severe headache, trouble speaking, weakness of arm or leg, trouble seeing, dropping of one side of the face and dizziness or loss of balance; symptoms and signs relating to affected side of brain

Answer to question 3:

In relation to the middle image of category B images; the top image represents stroke secondary to obstructed brain artery while the bottom one represents stroke resulting from ruptured brain vessel rupture (Bleeding).

Answer to self-assessment 6.3.1

Answer to question 1: d

Answer to question 2: the answer is yes for a, b, c, d, e, f, and g; as manifestations of a stroke vary depending on the affected cerebral territory

LESSON 12: First aid in Stroke

a. Learning objectives

At the end of the lesson, students will be able to understand the first steps in dealing with stroke

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have learnt cardiovascular and neuro system anatomy and physiology and health assessment.

d. Learning activity 6.3.2

Guidance

- As a facilitator, form groups of 5 to 6 students depending on their class size
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Ask students to attempt the learning activity 6.3.2
- Move around groups guiding and facilitating them
- Select randomly like 3 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Encourage and ensure both males and females participate both in presenting the work done, adding any missed idea on what is presented and in asking questions
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability get what you say.

Answers to learning activity 6.3.2

This picture shows a person who present signs and symptoms of stroke and a clock around. This images attempt to describe stroke as an emergency that need to be recognized early and dealt with as it's a matter of time.

Answers to self-assessment 6.3.2

Answer to question 1:

FAST is acronym for Face, Arms, Speech and Time used for rapid recognition and treatment of a person suffering from stroke. Thus, FAST is about:

FACE – check for facial droop by ask the victim to smile; one side of the face may not move as well as the other side.

ARMS – check for arm drift by ask the casualty to hold both arms out with the palms up, and close their eyes. One arm may not move or drifts down compared to the other arm.

SPEECH – check for speech slurred by ask the victim to repeat a phrase you say. The casualty may slur words, use the incorrect words or is not able to speak. Also check whether the victim understand you.

TIME – the time is critical. If you see any of these signs call 912 immediately (alert the hospital “possible stroke patient”. Ensure as well you have information regarding the onset of symptoms by asking the casualty, or their family, friends or bystander.

Answer to question 2:

The stroke victim should be kept NPO as he/she may need surgery/invasive procedure

LESSON 13: Epilepsy

a. Learning objectives

At the end of the lesson, students will be able to:

- Define epileptic seizure
- Understand epileptic seizure signs and symptoms

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students’ book and pictures for learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have learnt neuro system anatomy and physiology and they build on what they have learnt in unit 5.

d. Learning activity 6.3.3

Guidance

- As a facilitator, form groups of 5 to 6 students depending on their class size
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Ask students to attempt the learning activity 6.3.3
- Move around groups guiding and facilitating them
- Select randomly like 2 to 3 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Encourage and ensure both males and females participate both in presenting the work done, adding any missed idea on what is presented and in asking questions

- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability get what you say.

Answers to learning activity 6.3.3

Image A represent the brain that exhibit abnormal, recurring, excessive and self-terminating electrical discharge, image B represent a person who is having epileptic seizures and image C shows a person offering first aid to the victim of epileptic seizures. These three images relate in that the first one (A) represent the pathophysiology of epileptic seizures that are represented in image B while image C shows that victims of epileptic seizures need to be assisted through immediate first aid interventions.

Answers to self-assessment 6.3.3

Answer to question 1:

Though sometimes these two terms are used interchangeably, a convulsion is a general term that people use to describe uncontrollable muscle contractions while seizure refers to an electrical disturbance in the brain.

Answer to question 2:

It can affect any person though most common in children and elderly.

Answer to question 3:

Symptoms of epileptic seizures considering the different stages may include:

- Aura stage – hallucinations, confusion, dizziness, numbness and distorted emotions
- Tonic stage – incontinence, stiff body, epileptic cry and arched back
- Clonic stage – jerky movements, frothy saliva and blinking eyes
- Postictal stage – weak limbs, exhaustion and sleepy

LESSON 14: First aid for epilepsy

a. Learning objectives

At the end of the lesson, students will be able to understand the first steps in epileptic seizures

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures (image B of learning activity 6.3.3) in the student's book and pictures for learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have learnt neuro system anatomy and physiology and they build on what they have learnt in unit 5.

d. Learning activity 6.3.4

Guidance

- As a facilitator, form groups of 5 to 6 students depending on their class size
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Ask students to attempt the learning activity 6.3.4
- Move around groups guiding and facilitating them
- Select randomly like 2 to 3 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Encourage and ensure both males and females participate both in presenting the work done, adding any missed idea on what is presented and in asking questions
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability get what you say.

Answers to learning activity 6.3.4

Answer to question 1:

This image shows a person in clonic stage

Answer to question 2:

To help through this patient implement first aid interventions using the DRSABCD approach to include the following:

- Protect the patient from injury
- Manage the seizure or convulsion

- Manage the “After the seizure”
 - Advise for aftercare follow-up
- ⇒ refer to student book 6.3.4 for details

LESSON 15: Self - practice in the skills lab

a. Learning objectives

At the end of this lesson, learners will be able to:

- Perform first aid care during asthma attack
- Perform first aid care during hypertensive crisis
- Perform first aid care during heart attack
- Perform first aid care during stroke
- Perform first aid care during acute hypotension
- Perform first aid care during epileptic seizures

b. Teaching resources

Equipped skills lab with beds, vital signs materials, and videos showing the technique of first aid care during asthma attack, hypertensive crisis, heart attack, stroke, acute hypotension, and epileptic seizures.

c. Introduction

In this lesson, senior five learners will apply correctly the techniques of victim’s evacuation during emergencies

Activity 16: First aid care during asthma attack

Guidance

- Prepare a large station in the skills laboratory, each technique with its own station. Avail all equipment.
- Inform them to go in the skills laboratory
- Play a video of first aid care during asthma attack
- Ask four volunteers to simulate a scenario of asthma attack and perform the technique of first aid care during asthma attack.
- Ask other students to comment and stipulate what was done well and what should be improved
- Provide inputs as a facilitator and harmonize the procedure

The steps of the procedure

- Sit the person comfortably upright, remain calm and speak calmly to patient and do not leave the person alone
- Remove any obvious triggers in immediate patient environment area
- Give 4 puffs of reliever inhaler (e.g. Ventolin) and use a spacer if available. Give 1 puff at a time with 4 breaths after each puff. Use the person's own inhaler if possible otherwise use the one in a first aid kit or borrow one
- Wait for 4 minutes, if the person still cannot breathe normally give more 4 puffs
- If the person still cannot breathe normally call an ambulance (SAMU – 912) and say that the person is having an asthma attack. And keep giving reliever every 4 minutes till the ambulance arrives (4 puffs each time are safe dose for children; in adults with a severe attack, you can give up to 6 – 8 puffs every 4 minutes)
- Keep monitoring the person and never leave him or her alone

In a healthcare facility setting:

- Start treatment immediately
- Semi-sitting position
- Give O₂ to keep saturation above 90%
- Start short acting Beta 2 agonist nebulization (e.g. Salbutamol 5 mg in 5 ml of normal saline over 10 minutes repeated ½ hour later)
- Hydrocortisone 100 mg IV every 6 hours
- Assess the need of ventilation according to the response to therapy
- Avoidance of the triggering agent if known

Activity 17: First aid care during hypertensive crisis

Guidance

- Prepare a large station in the skills laboratory, each technique with its own station. Avail all equipment.
- Inform them to go in the skills laboratory
- Play a video of first aid care during asthma attack
- Ask four volunteers to simulate a scenario of asthma attack and perform the technique of first aid care during asthma attack.
- Ask other students to comment and stipulate what was done well and what should be improved
- Provide inputs as a facilitator and harmonize the procedure

The steps of the procedure

- Immediate interventions to be implemented when hypertensive crisis is suspected include
- Assess BP in both arms
- Elevate the head of the bed to approximately 30 - 45°
- Administer supplemental O₂
- Notify the physician
- Perform a focus assessment to assess and document level of consciousness, respiratory status, neurological deficits, baseline vital signs including oxygen saturation (if possible), note any visual disturbance, chest pain, peripheral edema and hematuria
- Keep close monitoring including assessing changes in cardiac rhythm if patient is on a monitor and in and out
- Anticipate and prepare to get ready to implement physician orders such as obtain an IV access, order laboratory tests (BUN, creatinine, electrolytes, administering medications and transferring the patient to intensive care unit.

Activity 18: First aid care during heart attack

Guidance

- Prepare a large station in the skills laboratory, each technique with its own station. Avail all equipment.
- Inform them to go in the skills laboratory
- Play a video of first aid care during heart attack
- Ask other four volunteers to simulate a scenario of heart attack and perform the technique of first aid care during heart attack.
- Ask other students to comment and stipulate what was done well and what should be improved
- Provide inputs as a facilitator and harmonize the procedure

The steps of the procedure

- Call for medical help (e.g. Call SAMU - 912) and get a defibrillator and importantly ensure the emergency department is informed of heart attack.
- Have the person stop what he or she is doing and rest comfortably. This will ease the heart's need for oxygen and many people find it easier to breathe while sitting.
- Loosen any restrictive or uncomfortable clothing
- Ask the person if he or she has a history of heart disease. Some people who have heart disease take prescribed medications for chest pain and you can assist them taking them (e.g. sublingual Nitroglycerin)
- Offer aspirin, if not contraindicated to lessen heart attack damage

- If feasible: Give oxygen if oxygen saturation is <90% or if the patient is short of breath, start IV fluids, give morphine as indicated e.g. 2 – 5mg if the pain not relieved by Nitroglycerin
- Monitor the person closely until emergency medical services personnel arrive. Note any changes in the person's appearance (i.e., loss of consciousness) or behavior and record as well interventions undertaken.
- Be prepared to perform CPR and use an AED if the person loses consciousness and stops breathing.
- Keep a calm and reassuring manner as comforting the person helps reduce anxiety and ease some of the discomfort

Activity 19: First aid care during stroke

Guidance

- Prepare a large station in the skills laboratory, each technique with its own station. Avail all equipment.
- Inform them to go in the skills laboratory
- Play a video of first aid care during stroke
- Ask four volunteers to simulate a scenario of stroke and perform the technique of first aid care during stroke.
- Ask other students to comment and stipulate what was done well and what should be improved
- Provide inputs as a facilitator and harmonize the procedure following the steps below;

The steps of the procedure

- Check and support ABCs vital signs; give oxygen if hypoxic
- Place the casualty at rest in the semi-sitting position
- Check blood glucose level as hypoglycemia can mimic stroke symptoms
- Obtain iv access and start IV fluid if possible (avoid excess fluids)
- Keep victim close monitoring and be calm and comforting while waiting victim medical evacuation
- If the casualty becomes unconscious, follow first aid steps for unconscious victim
- If there is paralysis, position the casualty with the paralyzed side up.
- Keep the victim nothing per oral (NPO)

Activity 20: First aid care during acute hypotension

Guidance

- Prepare a large station in the skills laboratory, each technique with its own station. Avail all equipment.
- Inform them to go in the skills laboratory
- Play a video of first aid care during acute hypotension
- Ask four volunteers to simulate a scenario of hypotension and perform the technique of first aid care during hypotension.
- Ask other students to comment and stipulate what was done well and what should be improved
- Provide inputs as a facilitator and harmonize the procedure

The steps of the procedure

- Place patient in a supine position with head of the bed slightly elevated if compromised airway
- Assess level of consciousness, orientation, baseline vital signs with emphasis on pulse quality and rhythm. Assess skin for color, temperature, moistness, turgor, and capillary refill
- Call for medical assistance indicating patient's status,
- Administer oxygen if inadequate respiratory effort
- Control any bleeding with direct pressure
- Ask the senior to obtain an IV access and give IV fluids if appropriate (hypotension may be due to cardiac compromise, in which case fluids might be contraindicated)

Activity 21: First aid care during epileptic seizures

Guidance

- Prepare a large station in the skills laboratory, each technique with its own station. Avail all equipment.
- Inform them to go in the skills laboratory
- Play a video of first aid care during epileptic seizures
- Ask four volunteers to simulate a scenario of asthma attack and perform the technique of first aid care during epileptic seizures.
- Ask other students to comment and stipulate what was done well and what should be improved
- Provide inputs as a facilitator and harmonize the procedure

The steps of the procedure

- Keep other people out of the way and check the immediate area for hazards, clear hard or sharp objects away from the person
- Look at the watch at the start of the seizure, to time its length
- Don't try to hold the victim down or stop the movements
- Place the victim on the floor so he/she do not fall and hurt him/herself
- Place the person on the side
- Keep bystanders clear and reassure them that the seizure will end soon
- Place something soft and flat under the head such a good soft pillow
- Loose or remove anything around the patient neck, such as a tie or a necklace
- Remove glasses
- As soon as the seizure ends, quickly put the patient in safety recovery position
- Cover the patient lightly with a coat or blanket
- Check that normal breathing has resumed
- Allow the patient to sleep until fully recovered, but check for a response every few minutes
- Stay with the person after the seizure stops
- If the patient does not wake up within 10 minutes, is not breathing well, or it is the first seizure – call for an ambulance (SAMU – 912)
- Stay calm all
- After seizure ends, help the person sit in a safe place
- Check for any injuries and apply necessary first aid
- Reassure the patient as full consciousness is restored.
- Advise the patient not to drive. Try to arrange for someone to be with the patient until he is safely home or in the ward.

6.6. Summary of unit

The unit five (5) of first aid care of the selected emergency conditions of selected body systems has focused on the six emergency conditions including asthma attack, acute respiratory distress syndrome, hypertensive and hypotensive crisis, heart attack, stroke and epilepsy.

Cardiopulmonary resuscitation (CPR) is a lifesaving technique that is useful in many emergencies, such as a heart attack or near drowning, in which someone's breathing or heartbeat has stopped. The American Heart Association recommends starting CPR with hard and fast chest compressions.

During an asthma attack, also called an asthma exacerbation, the airways become swollen and inflamed. The muscles around the airways contract and the airways

produce extra mucus, causing the breathing tubes to narrow. During an attack, you may cough, wheeze and have trouble breathing. The management of asthma consist of both symptoms management and avoiding triggering factors. Three major types of inhalers are used to deliver asthma and chronic obstructive pulmonary disease (COPD) medications: metered dose inhalers (MDIs), dry powder inhalers (DPIs), and soft mist inhalers (SMIs).

In an emergency hypertensive crisis, your blood pressure is extremely high and has caused damage to your organs. Hypertensive crisis requires an immediate medical attention and its treatment may involve hospitalization and the use of oral and/or intravenous medications after thorough assessment and classification.

The initial nursing assessment of the patient with stroke should include evaluating the patient's vital signs, particularly oxygen saturation, Blood Pressure, and temperature, in addition to measuring blood glucose and performing a bedside nursing care.

Epilepsy is a symptom of numerous disorders but in more than a half of patients with epilepsy, no apparent cause is found. The aim of management is preventing or at least reducing the frequency of seizures through medication and lifestyle modification. Anticonvulsant drug therapy is usually initiated after a patient suffers a second unprovoked seizure and the dose is titrated to control seizures while minimizing side effects. Non-pharmacological management of epileptic patient involves avoiding activities that would be hazardous if a seizure were to occur.

The importance of first aid in above selected emergency conditions is to give tools to prevent the situations from becoming worse. In some situations, if a patient doesn't receive basic first aid care immediately their situation will deteriorate often rapidly. By being able to provide basic care a nurse can stabilize a patient until emergency medical services arrives.

6.7. Answers for End unit assessment

1. = c,
2. = d,
3. = c;
4. = b and d;
5. =c;
6. = d;
7. = b;
8. = a;
9. = d;
10. = c;
11. = a
12. 1= b; 2= a; 3= c
13. 1D, 2A, 3C, 4B, 5E, 6F, 7G

14. After seizures:

- Advise the patient not to drive. Try to arrange for someone to be with the patient until he is safely home or in the ward
- Advise the patient to report the seizure
- Advise the patient to continue taking anti-seizure medication

15. First aid for a person having asthma attack:

- Sit the person comfortably upright, remain calm and speak calmly to patient and do not the person alone
- Remove any obvious triggers in immediate patient environment area
- Give 4 puffs of reliever inhaler (e.g. Ventolin) and use a spacer if available. Give 1 puff at a time with 4 breaths after each puff. Use the person's own inhaler if possible otherwise use the one in a first aid kit or borrow one
- Wait for 4 minutes, if the person still cannot breathe normally give more 4 puffs
- If the person still cannot breathe normally Call an ambulance (SAMU – 912) and say that the person is having an asthma attack. And keep giving reliever every 4 minutes till the ambulance arrives (4 puffs each time are safe dose for children; in adults with a severe attack, you can give up to 6 – 8 puffs every 4 minutes)
- Keep monitoring the person and never leave him or her alone

In a healthcare facility setting:

- Start treatment immediately
- Semi-sitting position
- Give O₂ to keep saturation above 90%
- Start short acting Beta 2 agonist nebulization (e.g. Salbutamol 5 mg in 5 ml of normal saline over 10 minutes repeated ½ hour later)
- Hydrocortisone 100 mg IV every 6 hours
- Assess the need of ventilation according to the response to therapy
- Avoidance of the triggering agent if known

16. Cerebro-Vascular Accident (CVA) or Brain Attack is a vascular insult producing rapid onset of neurological deficit lasting for more than 24 hours, as a result of inadequate blood flow to a part of the brain or hemorrhage into the brain while an insult that results into neurological deficit that resolve within 24 hours is referred to us as “Transient Ischemic Attack (TIA)”.

17. Stroke occurs through two important mechanisms: the blood flow to a part of the brain is interrupted either by a blocked artery (Ischemic Stroke) or by a ruptured blood vessel in the brain (Hemorrhagic Stroke).

18. The 5 steps that are important when helping someone with heart problems are:
1. Early recognition and activation of emergency medical services system such as SAMU Call 912).
 2. Early CPR with an emphasis on chest compressions.
 3. Early defibrillation.
 4. Effective advanced life support.
 5. Integrated post-cardiac arrest care.
19. Functions that are likely to be affected in this case of ischemic stroke affecting temporal area are: hearing, smell, memory, language and facial recognition

6.8 Additional activities

6.8.1 Remedial activities

The use of the following remedial activities will help slow students or those students who had issues leading to poor performance to eliminate their weaknesses or deficiencies. And then give the opportunity to answer to the following questions.

1. Define asthma?

Answer: Asthma is a chronic inflammatory lung disease that causes airway hyper-responsiveness, mucus production, and mucosal edema resulting in reversible airflow obstruction triggering coughing, wheezing and shortness of breath.

2. What does the management of asthma consist of?

Answer: The management of asthma consist of both symptoms management and avoiding triggering factors

3. Explain the reason why the inhaled therapy is the mainstay of treatment for people with asthma?

Answer: the main reason is that through inhalation drugs are delivered directly to the airways where they are needed, work quickly and effectively.

4. State at least the 5 symptoms of severe asthma attack?

Answer:

- Intractable coughing
- Mucus secretions
- Sensation of air hunger
- Chest tightness

- Inability to speak in complete sentences because of labored breathing
 - Worsening of distress when attempting to lie flat
 - Quiet chest
 - Decreased oxygen saturation
 - Agitation
5. Recall 5 first aid actions to be taken out of health facility if the “Ventolin” is available?

Answer:

- Sit the person comfortably upright, remain calm and speak calmly to patient and do not the person alone
 - Remove any obvious triggers in immediate patient environment area
 - Give 4 puffs of reliever inhaler (e.g. Ventolin) and use a spacer if available. Give 1 puff at a time with 4 breaths after each puff. Use the person’s own inhaler if possible otherwise use the one in a first aid kit or borrow one
 - Wait for 4 minutes, if the person still cannot breathe normally give more 4 puffs
 - If the person still cannot breathe normally call an ambulance
6. Outline the aims of treatment for ARDS.

Answer: The ARDS treatment aims at maximizing clinical stability and managing symptoms while treating the underlying cause as if this is not treated the ARDS will not resolve.

7. Write blood pressure values for systole and diastole in case of stage 2 hypertension?

Answer: systole: > 140–159mmHg and diastole: > 90mmHg

8. Describe the white coat hypertension?

Answer: Some patients may have elevated BP readings in a clinical setting and normal readings when BP is measured elsewhere.

9. Order the following immediate interventions to be implemented when hypertensive crisis is suspected?
- A. Elevate the head of the bed to approximately 30° - 45°
 - B. Notify the physician
 - C. Administer supplemental O₂
 - D. Assess BP in both arms
 - E. Perform a focus assessment
 - F. Keep close monitoring including assessing changes in cardiac rhythm

G. Anticipate and prepare to get ready to implement physician orders

Answer:

1	2	3	4	5	6	7
D	A	C	B	E	F	G

10. List five steps that are important when helping someone with heart problems.

Answer:

- a. Early recognition and activation of emergency medical services system such as SAMU Call 912).
- b. Early CPR with an emphasis on chest compressions.
- c. Early defibrillation.
- d. Effective advanced life support.
- e. Integrated post-cardiac arrest care.

6.8.2. Consolidation activities

Answers:

1. Stroke is a vascular insult producing rapid onset of neurological deficit lasting for more than 24 hours; manifestations of a stroke vary depending on:
 - a. Personality of patient
 - b. The etiology of stroke
 - c. The affected body system
 - d. The vessel affected and the cerebral territories it perfuses**
2. Acute respiratory distress syndrome does not occur as a primary process but may follow a number of diverse conditions producing direct or indirect lung injury; the direct injuries leading to ARDS are the following except one:
 - a. Aspiration, pneumonia
 - b. Fat embolism
 - c. Excessive blood transfusion**
 - d. Pulmonary contusion
3. In healthy adults the average systolic pressure is less than 120 mmHg and the average diastolic pressure is less than 80 mmHg. The difference between the systolic and diastolic pressure, known as the pulse pressure is normally ranging:
 - a. Between 30 and 40 mmHg**
 - b. Between 20 and 40 mmHg
 - c. Between 30 and 50 mmHg
 - d. Between 20 and 30 mmHg

4. A seizure sometimes called a “convulsion” is a single event of paroxysmal, synchronous and excessive discharge of neurons in the cerebral cortex manifesting as the following except:
- A stereotyped disturbance of consciousness
 - Disturbance of behavior
 - Motor function or sensation disturbance
 - Respiratory arrest**

6.8.3. Extended activities

1. Differentiate primary hypertension from secondary hypertension?

Answer: The primary hypertension is when the cause is not identifiable and this can occur in 90% of all of hypertension; while the secondary hypertension is in case there is identifiable cause and this occurs in 10% of all hypertension cases.

2. The severe increase in BP damages the blood vessels and organs. Therefore, hypertensive crises can be divided into hypertensive emergencies. List the conditions included in hypertensive emergencies:

Answer: hypertensive emergencies include:

- Hypertensive encephalopathy,
- Intracranial or subarachnoid hemorrhage,
- Acute left ventricular failure with pulmonary edema,
- Heart attack,
- Renal failure,
- Dissecting aortic aneurysm and eclampsia

3. Outline the two mechanisms involved into occurrence of stroke?

Answer:

- Ischemic Stroke: The blood flow to a part of the brain is interrupted either by a blocked artery;
- Hemorrhagic Stroke: this happens due to a ruptured blood vessel in the brain

4. What are the most common factors associated with seizures?

Answer:

- Vascular disease (especially stroke),
- Alcohol abuse,
- Cerebral tumors,
- Head injury

5. Differentiate generalized seizure from focal/partial seizures?

Answer: Generalized seizures result from abnormal electrical activity affecting the entire cerebral cortex while focal or partial seizures affect specific region of the brain.

6. Having a seizure at certain times can lead to circumstances that are dangerous to the pregnant mother; explain how?

Answer: Seizures during pregnancy pose dangers to both mother and baby, and certain anti-epileptic medications increase the risk of birth defects

7.1. Key unit competence

Apply correctly the technique of victim's evacuation during emergencies

7.2. Prerequisites

Students will learn better the content of this unit "Victim evacuation technique" if they have a good understanding of:

- Anatomy and physiology: the students should be able to recall anatomy and physiology related to respiratory system, cardiovascular system, nervous system, musculoskeletal system and integumentary system.
- Nursing Ethics and Professional Code of Conduct: The students should be able to recall and relate concepts of ethics and professional conduct to first aid, in particular, concept of professionalism; concepts of code of conduct; scope of practice of healthcare.

7.3. Cross-cutting issues to be addressed

Throughout teaching this unit you should relate the content being taught with the following cross-cutting issues:

a. Environment and sustainability

As the teacher, inform the students that the environment must be sustained at all cost to prevent disaster which might arise from poor environment. Additionally, teach them that medical wastes related to first aid interventions might contain potentially harmful microorganisms that can spread in the environment and infect the habitat of all populations living organisms. Subsequently, some living organism might die as a result of such infection. Therefore, emphasize to students that such wastes should be appropriately handled and treated to protect and sustain the environment.

b. Gender equality

Gender is a socially constructed perception about the roles that men and women play in a particular culture. The teacher will encourage the students to have in mind that gender disparities is prohibited in their interventions to avoid unequal access to quality health care. He/ She will also take in account that gender could not bring the differences in achievement between males and females. He has to raise awareness in considering and recognizing that there is a women and girls' added vulnerability in emergency situation.

c. Peace and values

Throughout the lessons, the teacher will remind the students the importance of having an attitude that inspires peace and serenity. Some cases of emergency are the results of a mismanagement of conflicts. He/she will debate with students how to resolve inter-personal tensions, disputes through negotiation and peer-mediation. He will invite them to maintain a climate of peace in the school and different interventions in which they are involved.

d. Comprehensive sexuality education

The teacher will explain to the students that, it is very important and crucial to take in account about the issues related to the sexuality, because the first aider may rescue person (victim) of the different sex, therefore the students will perform first aids bearing in mind that it is their responsibilities to know that everyone has the right to sexual health and privacy. However, remind the students that there are the sexual transmitted diseases that they need to protect themselves from contamination.

e. Inclusive education

The teacher will have in mind that all students have right to attend the course regardless of their different needs. Attention should be paid during all the process of the lessons to address this issue. All students will benefit from the same menu of learning process. The possibility of this assumption is the focus of special needs education. The critical issue is that all students are totally different in their ways of living and learning as and then their difference will be taken into account. This can be either emotional, physical, sensory and intellectual learning challenged. For students who have physical impairment that prevent them hands on activities have to be provided with adapted assimilations. Those with partial visual impairment can be provided with printed activities in large front size.

7.4. Guidance on the introductory activity

Before starting to teach this unit of victim evacuation, ask students to attempt the introductory activity of the unit. This introductory activity intends to:

- Relate the unit with students' past life experience to attract their attention
- Assess what is already known by students regarding victim evacuation when there is an emergency.

As a facilitator, ask the students to observe the pictures of introductory activity and encourage them to attempt answering asked questions grounded from their past experience whether they have been involved in victim evacuation interventions. Let the students know that there is no wrong answer as their responses are based on their past experiences. Allow students to have 2 to 3 min for observation and reflection on the pictures, then allow them to express their ideas. Consider their ideas and build on them to inform what they will learn in this unit.

Answers of the introductory activity

Answer to question1:

- The image A show one person, two persons and also three person holding casualties in their hand. We can say that they were taking him from one place (danger) to a safe place or to a health facility.
- The image B show one person and two persons in uniform rescuing someone probably from the burned house.
- The image C show two paramedics carrying a casualty on a stretcher
- The image D show 3 person holding a patient and another one preparing a stretcher to be used while carrying that patient.

Answer to question 2

- In the illustrate there are two different types of stretchers. A folding stretcher and a board rescue stretcher.

Answer to question 3

- The provided image shows different technique for victim evacuation. –one person carry technique where one rescuer carries a patient in his/her arms. – Two-person arm carry which involves two rescuers to carry a casualty in the hands, -Two person arms and leg carry where two rescuers hold casualties hand and leg to drag him/her out of danger zone. –three person arms carry where three rescuer drag a casualty from one area to another

7.5 List of lessons /sub-headings

S/N	Lesson title	Learning objectives	Periods
1	Basic concepts of ERM (Emergency, Response Management)	-Understand the basic concepts, aims, and elements of emergency response management, including search and rescue. -Understand the basic concepts, types and various stages involved in evacuation before or during disasters and the health needs that may arise	2
2	Local level search and rescue techniques	Understand the need for coordination with health service providers and local authorities in the area and know strategies for coordination	2

3	Introduction to basic rescue victims evacuation techniques	Explain different victims' evacuation techniques	1
4	Ankle pull	Perform ankle pull evacuation technique	2
5	Shoulder pull	Perform shoulder pull evacuation technique	2
6	One-person lift	Perform one-person lift evacuation technique	2
7	Pack-strap carry	Perform pack-strap carry evacuation technique	2
8	Two person arm carry	Perform two persons arm carry evacuation technique	2
9	Two person carry by arms and legs	Perform two persons carry by arms and legs evacuation technique	2
10	Chair carry	Perform chair carry evacuation technique	2
11	Improvised stretcher	Perform improvise stretcher evacuation technique	2
12	Fireman's carry	Perform fireman's carry evacuation technique	2
13	Blanket drag	Perform blanket drag evacuation technique	2
14	End unit assessment	<p>Define the basic concepts, aims, and elements of ERM</p> <p>Recall the basic concepts, types and various stages involved in evacuation before or during disasters and emergencies and the health needs that may arise.</p> <p>Explain different victims' evacuation techniques</p>	2
15	Skills lab self-practice	Gain hands on skills to perform victims' evacuation techniques	2
16	OSCE	Demonstrate acquisition of hands on skills to perform victims' evacuation techniques	4

LESSON 1: Basic concepts of ERM (emergency, response and management)

a. Learning objectives

At the end of the lesson, students will be able to:

Explain the basic concepts of emergency response and management

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have a good understanding of the concepts of first aid care in emergency situation.

d. Learning activity 7.1

Guidance

- Before introducing the lesson, you have to introduce the whole unit.
- As a facilitator, form groups of 4 students depending on their class size
- Ask students to attempt the activity 7.1
- Move around groups guiding and facilitating them.
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- The learning activity 7.1, is written in students' book. However, you can use the pictures and ask more questions to the students.
- Select like 2 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability or visual impairment get what you say.

Answers to learning activity 7.1

Question 1. Picture A: Show rescuers searching and evacuating victims from the fallen house resulting from the disaster most probably earthquake. **Picture B:** Show rescuers evacuating victim from probably mass shouting.

In both pictures victims are being evacuated by more than one person using stretchers

Question 2. For the definitions of the term emergency and emergency response please refer to student book.

Answers to a self-assessment 7.1

- 1 = a
- 2 = d
- 3 = a
- 4 = c

LESSON 2: Local level search and rescue technique

a. Learning objectives

At the end of the lesson, students will be able to:

Understand the need for coordination with health service providers and local authorities of the affected area

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have a good understanding of basic concepts of ERM (emergency, response management).

d. Learning activity 7.2

Guidance

- As a facilitator, form groups of 3 to 5 students depending on their class size
- Ask students to attempt the learning activity 7.2
- Move around groups guiding and facilitating them
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.

- The learning activity 7.2, is written in students' book. However, you can use the pictures and ask more questions to the students.
- Select like 2 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability or visual impairment get what you say.

Answers to learning activity 7.2

Answer to question 1:

People on image are in uniform and working in a team to rescue casualties

Answer to question 2:

They are rescuing, and transporting casualties from where they were to an area where advanced care is available. Some people on the images seems to be supervising and coordinating the activity.

Answer to question 3:

The place where they are, is not prepared is the area where the accident encountered

Answer to question 4:

A major cause is a disaster that happened in the area

Answers to a self-assessment 7.2

Answer to question 1:

Search and rescue activities can be undertaken in:

- The community where local authorities play a big role
- Outside community which involves health care services and specialist outside of the community

Answer to question 2:

- Survivors can attempt to rescue their mate whom get affected.

- Untrained personnel: bystanders or other nearby people can help in dragging victim away of danger zone.
- Trained personnel: health care professional or other trained people with adequate materials to rescue victims.

Answer to question 3:

Team composition will be determined by the various organisations within each area on the basis of safe accomplishment of set tasks. A team leader must be appointed and team of 6 – 8 members is required for effective general rescue team work. It is essential that each safe shelter form a rescue group, comprising of 8 members; Team leader: 1, Skilled persons: 2 Members: 5

Answer to question 4:

Each team should have a call out system established, and have determined the time necessary to ensure a full team response. This system should include such details as:

- Who calls out the team
- Who will be responsible for them
- Where to report
- What functions the team will perform
- What equipment to take
- Likely duration of task or event

LESSON 3. Introduction to Basic rescue Victims evacuation techniques

a. Learning objectives

At the end of this lesson, learners will be able to explain different victims' evacuation techniques.

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have a good understanding of basic concepts of emergency, response management, first aid, anatomy and physiology of the musculoskeletal systems.

d. Learning activity 7.3

Guidance

- As a facilitator, form groups of 3 to 5 students depending on their class size
- Ask students to attempt the learning activity 7.3
- Move around groups guiding and facilitating them
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- The learning activity 7.3, is written in students' book. However, you can use the pictures and ask more questions to the students.
- Select like 2 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability or visual impairment get what you say

Answer to Learning activity 7.3

Answers to question 1

The illustrates on the learning activity 7.3 are showing paramedics some attempting to rescue victims with first aid interventions. Stabilized victims are being transported to a health care facility via different transportation means.

Answer to question 2

The provided image demonstrates different victim evacuation techniques:

- Two-person victim carry using a stretcher or a boat
- Two person carry via an ambulance carry
- Rope carry technique via a helicopter and a fireman's carry technique.

Answers to a self-assessment 7.3

Answer to question 1

Mass casualties' victims transfer require sorting them to know who will be evacuated first. After sorting casualties, the color code tag system used.

Red: for the victims who need immediate advanced medical treatment (within 1 hour) to survive. These victims would have first priority for transport to a medical facility, if available.

Yellow: For the victims who has serious injuries, but are not life threatening. These can survive without advanced medical treatment and their situation can be maintained through proper basic emergency care.

Green: Minor injuries that can be dealt with by first aid, or can wait for some time without treatment.

Black: Deceased, or who are unlikely to survive given the situation.

Answer to question 2

Rescue drag and victim evacuation techniques,

- Required to evacuate an injured person from an emergency scene to a location of safety.
- Manual carries are tiring for the rescuer and involve the risk of increasing the severity of the casualty's injury.
- Choose the evacuation techniques that will be least harmful, both to rescuer and the victim.
- Casualties carried carefully and correctly handled, otherwise their injuries may become more serious or possibly fatal.
- Situation permitting, evacuation of a casualty should be organized and un-hurried.
- Each movement should be performed as deliberately and gently as possible.

Answer to question 3: To understand the difference between different victim's Evacuation technique please refer to student book.

LESSON 4: Ankle pull evacuation technique

a. Learning objective:

At the end of this lesson, students will be able to perform ankle pull evacuation technique

b. Learning resources

Books, videos, and images illustrated in student book.

c. Introduction

In this lesson student will learn the ankle pull technique for victim evacuation.

d. Learning activity 7.4

Guidance:

- Indicate the location of activity 7.4 to students in the student's book and request students to attempt it.
- Move around groups guiding and facilitating them
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Select like 2 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.

Answer to the learning activity 7.4

1. The standing guy seems to be pulling the lying victims by his ankles.
2. This is a technique which is mostly used to drag very large and unconscious victims from one area to another. The literatures stress that this should be used as the last resort.

Answer to application activity 7.4

The ankle pull technique is done in a stepwise approach illustrated in the checklist below.

Checklist for ankle pull

Technique : Ankle pull
The rescuer assess if the victim has no spinal cord injury, head or neck injuries.
The rescuer assess if the victim has no spinal cord injury, head or neck injuries.
The rescuer has to grasp firmly the ankles of victim
The victim's arms should be crossed over his/her chest.
Squat at the feet of the victim and grasp their ankles
The rescuer pulls the victim to safety in a straight line.
Stand, lean back, and drag

LESSON 5: Shoulder pull

a. Learning objective

At the end of the lesson, students will be able to evacuate casualties using shoulder pull technique.

b. Teaching resources

The mannequin or simulated patient, projector, Flipchart, Student book and Video on shoulder pull downloaded freely from YouTube.

c. Prerequisites

Students will learn better this lesson if they have a good understanding of the anatomy and physiology of the musculoskeletal system.

d. Learning activity 7.5

Guidance

- To facilitate the students to do the learning activity 7.5 found in their student book, place students in group of 4 students.
- Ask them to attempt the learning activity 7.5 where each perform the technique of shoulder pull on his/her colleague or on the mannequin modeling from the illustrate provided.
- Avail all materials for the technique
- Move around groups guiding and facilitating them to perform the technique of shoulder pull

Answer to question 1 of learning activity 7.5

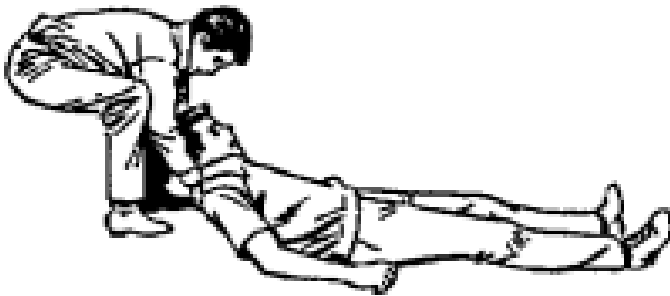
The man in squat position is pulling the casualty holding his shoulder.

Answer to question 2 of Learning activity 7.5 and application 7.5

The shoulder pull technique for victim evacuation is done in a stepwise approach as follows

Technique : Shoulder pull

- Grasp the victim by the clothing under the shoulders.
- Keep your arms on both sides of the head.
- Support the head.
- Try to keep the pull as straight and in-line as possible
- Pull the victim



LESSON 6: One-person lifting technique

a. Learning objectives

At the end of this lesson, learners will be able to perform one-person lift technique for victim evacuation.

b. Teaching resources

The mannequin or simulated patient, projector, Flipchart, Student book and Video on shoulder pull downloaded freely from YouTube

c. Prerequisites

Students will learn better this unit “**One person lifts**” if they have a good understanding of:

- Anatomy and physiology: the learners should be able to recall anatomy and physiology related to respiratory system, cardiovascular system, nervous system, musculoskeletal system and integumentary system in general.

- Nursing Ethics and Professional Code of Conduct: The learners should be able to recall and relate concepts of ethics and professional conduct to first aid, in particular.

d. Learning activities

Guidance

- To facilitate the students to do the learning activity 7.6 found in their student book, place students in group of 3 to 5 students.
- Ask students to attempt the learning activity 7.6
- Move around groups guiding and facilitating them
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Select like 2 groups to share their answers to the whole class. One from each group write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic

Answer to learning activity 7.6

Answers to question 1

One-person lift is a technique for victim evacuation where one rescuer lifts a casualty in his/her arms. It best used when carrying a light person or a child.

Answers to question 2

- a. fireman's lift and carry
- b. Arms or sweetheart carry

Answer to application activity 7.6

Answers to questions 1

- Factors to Consider before lifting the causality by one-person lift are:
- Weight and height of the victim
- Status of the victim (conscious or unconscious)
- Environment (safe, floor is smooth, narrow or wide)
- Special need considerations (injuries of the victims)

Answer to question 2 : b

Answer to question 3

To perform one-person carry technique, place your arms under the victim's knees and around their back, lift and carry that victim.

LESSON 7: "Pack –strap carry" evacuation technique

a. Learning objectives

At the end of the lesson, students will be able to:

- Understand the indication of pack-strap carry evacuation technique
- Perform pack-strap car evacuation technique

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the student's book and the black board.

c. Prerequisites

Students will learn better the content of this lesson if they have good understanding of the anatomy of the musculoskeletal system.

d. Learning activity 7.7

Guidance

- As a facilitator, pair students of the same weight and height in two.
- Ask students to model from the image and attempt learning activity 7.7 where each will perform the pack-strap carry technique. one will play the role of the victim and the other one will be a rescuer.
- Move around groups guiding and facilitating them.

Answers to learning activity 7.7 and application activity 7.7

1. The technique is appropriate to b) A conscious casualty
2. The technique of pack strap car evacuation is done in step wish approach as follow

- | |
|--------------------------------------------------------------------------|
| 1. Give the clear information about what to do to the casualty |
| 2. Turn your back to the standing casualty |
| 3. Bring their arms over your shoulders to cross your chest |
| 4. Keep their arms straight as possible, the armpits over your shoulders |
| 5. Hold casualty's wrists, bend, and pull the person onto your back |

LESSON 8: Two-person arm carry evacuation technique

a. Learning objectives

At the end of the lesson, students will be able to:

- Understand the indication of pack-strap car evacuation technique
- Perform pack-strap car evacuation technique

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and the black board.

c. Prerequisites

Students will learn better the content of this lesson if they have good understanding of the anatomy of the musculoskeletal system.

d. Learning and application activity 7.8.1 and 7.8.2

Guidance

- As a facilitator, pair students of the same weight and height in two.
- Ask students to model from the image and attempt activity 6.8.1 and 6.8.2 where each will perform the Two -person arms carry evacuation technique. One will play the role of the victim and the other one will be a rescuer.
- Move around groups guiding and facilitating them.

Reframe it as follows:

Answer to learning and application activity 7.8.1

The Human crutch/two-person drag evacuation technique is done in a stepwise approach which is well described in the student book

Answer to application activity 7.8.2

Please refer to the student book to know how the technique of two handed- seat technique for victim evacuation is done is a stepwise approach.

Answer to application activity 7.8.3.

The technique of four handed- seat for victim evacuation is well illustrated and described in the student book

LESSON 9: Two person carry by arms and legs

a. Learning objectives.

At the end of this lessons, learners should be able to perform two persons carry by arms and legs technique for victim evacuation.

b. Learning resources

- Student book
- Illustrated pictures of the persons carry by arms and legs
- Movies and video showing how to perform the technique available on YouTube

c. Introduction

In this lesson students will be taught the technique of two person carry by arms and legs

d. Learning activity 7.9

Guidance

- To facilitate learners to do the activity 7.9 found in their student book, pair learners in group of 2 or 3 students.
- The learning activity 7.9 is written in students' book however, the teacher can add more questions. The teacher will use round table activity Ask learners to do this activity.
- Move around groups guiding and facilitating them to do the activity.

Answer to learning activity 7.9

Answer to question 1.

- The technique of two person carry by arms and legs involves lifting the victim holding his or her arms and legs. It is done by two persons where one holds the victim arms and the other hold the victim legs.

Answer to question 2

Two person carry (by arms & legs),

- Rescuer 1 squats at the victim's head and grasps the victim from behind at the midsection.
- Rescuer 2 squats between the victim's knees, grasping the outside of the knees.
- Both rescuers rise to a standing position.

Answer to application activity 7.9

Answers to questions 1

- After evaluating the casualty's illness or injury and administering first aid, you need to decide the most effective means of transporting a casualty.
- Do not transport a casualty with a suspected fracture of the neck or back unless a life-threatening hazard is in the immediate area. Wait until medical personnel arrive.
- Go slowly to avoid further injury. If the injured person is able to talk, check in frequently to make sure they are comfortable throughout the process.

Answers to questions 2

The 'Fore and Aft' Method:

- Is a method where each rescuer grasps their left wrist and the hands are joined up to provide a comfortable seat for the casualty and places a minimum strain on the rescuers.
- Is a technique which requires a patient to be conscious to hold on. And is done by two rescuers.
- The first rescuer bends at the back of the casualty. Reaching under the casualty's arms, then holds the casualty's wrists
- The second rescuer bends between the casualty's legs grasping them underneath the knees.
- The standard lift orders are given and the casualty is lifted into the carrying position.
- Should the casualty have a leg injury, the effects of this can be minimized by the front rescuer crossing the casualty's legs over, then carrying them to one side.

LESSON 10: Chair carry evacuation technique

A. Learning objective:

At the end of this lesson, students will be able to perform chair carry technique for victim evacuation.

B. Learning resources

Books, videos, images illustrated in student book.

C. Introduction

In this lesson student will learn how to carry a victim using a chair

D. Learning activity 7.10

Guidance:

- Indicate the location of activity 7.10 to students in the student's book.
- Move around students observing if they are reading the correct page and what they are observing.
- Invite three students (triple) to practice the technique themselves after observing the image of technique in student's book or simulation lab video if any.
- Ask the other students to follow carefully the practice done by their colleagues.
- The students who are not acting may have to observe carefully without disturbing and should applaud the actors after.
- Remember to assist those who are not performing technique correctly showing to them the steps to follow.
- Guide students to make notes in their notebooks referring to learner's book.

Answer to the learning activity 6.10 and application activity 7.10

The chair carry evacuation technique is done in a stepwise approach as described in the checklist below.

Checklist for chair carry

1. Prepare a strong chair
2. Pick the victim up and place him/her or have him/her sit in a chair
3. The rescuer at the head grasps the chair from the sides of the back, palms in
4. The rescuer at the head then tilts the chair back onto its rear legs
5. For short distance the second rescuer should face in and grasps the chair legs
6. Transport the victim carefully to the safe area

LESSON 11: Improvised stretchers

a. Learning objective

At the end of the lesson, students will be able to evacuate casualties using a specific method of improvised stretcher.

b. Teaching resources

Projector, Flipchart, Student book and video of improvised stretcher downloaded freely from YouTube.

c. Introduction

In this lesson student will learn how to make improvised stretcher to carry a victim

d. Learning activity 7.11

Guidance

- To facilitate the students to do the learning activity 7.11 found in their student book, place students in group of 3 to 5 students.
- Ask students to attempt the learning activity 7.11
- Move around groups guiding and facilitating them
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Select like 2 groups to share their answers to the whole class. One from each group write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.

Answer to Learning activity 7.11

Answer to question 1

A stretcher is a light frame made from two long poles with a cover of soft materials stretched them, used for carrying people who are ill, injured, or dead. An improvised stretcher is stretcher made in urgent way using nearby equipment to carry a victim.

Answer to question 2

A casualty demonstrated in the learning activity 7.11 is lying and tied to a bedframe made as a stretcher to evacuate that casualty.

Answer to application activity 7.11

Answer to question 1

Materials to make a blanket stretcher include:

- Blanket
- Two pole of about 2 meters

Answer to question 2

Bore two holes at one end of the door adjacent to the position for the casualty's head. Commence the lashing by tying the rope end through one hole. The casualty is then lashed in the normal manner and the lashing is finished by tying through the remaining hole.

LESSON 12: Fire man carry

a. Learning objective

At the end of the lesson, students will be able perform the fire man carry

b. Teaching resources

The mannequin or simulated patient, projector, Flipchart, Student book and Video on fireman carry downloaded freely from YouTube.

c. Prerequisites

Students will learn better this lesson if they have a good understanding of the anatomy and physiology of the musculoskeletal system.

d. Learning activity 7.12

Guidance

- To facilitate the students to do the learning activity 7.12 found in their student book, place students in group of 4 students.
- Ask them to attempt the learning activity 7.12 where each perform the technique of fireman's carry on his/her colleague or on the mannequin modeling from the illustrate provided.
- Avail all materials for the technique
- Move around groups guiding and facilitating them to perform the technique of fireman's carry for victim evacuation.

Answer to Learning activity 7.12

A fireman's carry or fireman's lift is a technique allowing one person to carry another person without assistance. It requires placing the carried person across the shoulders of the carrier. This technique is for carrying a victim in longer distances.

Answer to application activity 7.12



1. The victim is carried over one shoulder.
2. The rescuer's arm, on the side that the victim is being carried, is wrapped across the victim's legs and grasps the victim's opposite arm.

LESSON 13: Blanket drag evacuation technique

a. Learning objectives

At the end of the lesson, students will be able to:

Understand the need blanked drag evacuation technique

Perform blanket drag evacuation technique

b. Teaching resources

The needed teaching resources are: blanket, computer, projector, illustrated pictures in the students' book and pictures for Learning activity, black board

c. Introduction

In this lesson student will learn the technique of blanket drag for victim evacuation.

d. Learning activity 7.13

Guidance

- As a facilitator, form groups of 7 students depending on their class size. One will be the casualty and the other 6 will be rescuers.
- Ask students to attempt the attempt learning activity 7.13
- Move around groups facilitating student to perform the technique.

Answers to learning activity 7.13

Answer to question 1

The image of the learning activity 7.13 show a blanket rolled on it two ending to form a stretcher.

Answer to question 2 and application activity 7.13

The blanket drag is done in steps as follow:

1. Make a stretcher ready using one blanket.
2. Roll a blanket lengthways for half of its width and lay the rolled section along the side of the casualty (casualty flat on back).
3. The leader then directs two (or three) rescuers to kneel down on each side of the casualty.
4. The rescuers on one side ease the casualty over on one side and the rolled section of the blanket is pushed well underneath the casualty.
5. With the rolled up section of the blanket now under the centre of the casualty, the casualty is eased over in the opposite direction and the blanket is unrolled. The casualty should now be lying flat on their back.
6. The sides of the blanket are rolled up close to the casualty's body to provide handgrips for the bearers.
7. On the order from the leader, the casualty is lifted waist high, and carried to the stretcher.
8. On the order from the leader, the casualty is lowered onto the stretcher
9. The blanketing is then completed with one blanket, leaving the lifting blanket in position.

7.6. Summary of the unit

An emergency situation poses an immediate risk to health and life. Most emergencies require urgent intervention to prevent a worsening of the situation. Attending to the victim of such emergency a search and rescue team made by people specifically trained to respond where necessary came to evacuate victims. The aim of rescue is to save the greatest number of lives in the shortest possible time and to minimize further injury to people and damage to property. Evacuation and safe rescuing of victim by applying simple manual techniques can save the life of the victim. Regular hands on practice and drills help the rescuer to save lives in quicker and safer manners.

All rescuers must be aware that the safety of the casualty is paramount even when immediate evacuation from a hazardous environment is necessary. A careful assessment must be made of the casualties' injuries, condition, and possible entrapment, and a final check must be made to ensure that the casualty is actually ready to move and is not caught or entangled in some unseen object. Selection or sorting of casualties before evacuation of casualties where multiple casualties need attention, the rescuer will be required to select casualties for treatment and rescue by order of priority

Rescue drag and **victim evacuation techniques,**

- Required to evacuate an injured person from an emergency scene to a location of safety.
- Manual carries are tiring for the rescuer and involve the risk of increasing the severity of the casualty's injury.
- Choose the evacuation techniques that will be least harmful, both to rescuer and the victim.
- Casualties carried carefully and correctly handled, otherwise their injuries may become more serious or possibly fatal.
- Situation permitting, evacuation of a casualty should be organized and unhurried.
- Each movement should be performed as deliberately and gently as possible.

7.7 Answers to the end unit assessment

Answers to Multiple choice questions

1 = a

2 = a

3 = a

4 = c

5 = d

6 = a

7 = d

8 = b

9 = d

Answers to open questions

1. Precautions to consider before lifting the casualties with two arms include:
 - Weight and height of the victim
 - Status of the victim (conscious or unconscious)
 - Environment (safe, floor is smooth, narrow or wide)
 - Special need considerations (injuries of the victims)

2. Two-handed seat: Is the method used to carry the victims where:
 - Rescuers kneel on either side of the casualty, get them into a sitting position, lace one arm under the knees and link up with the hand to wrist grip.
 - Their forearms are then crossed over the casualty's back, where they get a firm grip of the clothing or link arms across casualty's back.
 - The leader should give the normal orders for lifting and lowering.
3. The technique of human crutch carry;
 - Start with the injured person lying on their back: This simple carry is easiest if the person is lying on the ground, flat on their back
 - Crouch on either side of the person's chest. Stand next to the injured person on one side, and have your partner stand facing you on the other side.
4. Before attempting to carry the victim with two arms and legs:

Explain the Procedure to the casualty. If the casualty is conscious, tell him what you are going to do. The explanation will help to calm his fears and will help you to get his cooperation.

Perform necessary measures before transporting. Make sure the casualty is breathing properly, open wounds have been dressed and bandaged, and fractures have been splinted before transporting the casualty.

Have one person in charge. One person must give the instructions to the remainder of the team so actions will be performed in union.

5. Casualty sorting

Before transporting the casualties, it is important to start by sorting them, in order of priority.

- **Red:** Priorities are displayed using a color code system.
- Those victims who need immediate advanced medical treatment (within 1 hour) to survive.
- These victims would have first priority for transport to a medical facility, if available.
- **Yellow:** These victims have serious injuries, but are not life threatening. They will survive without advanced medical treatment and their situation can be maintained through proper basic emergency care.
- **Green:** Minor injuries that can be dealt with by first aid, or can wait for some time without treatment
- **Black:** Deceased, or who are unlikely to survive given the situation.

6. A fireman's carry or fireman's lift is a technique allowing one person to carry another person without assistance. It requires placing the carried person across the shoulders of the carrier. This technique is for carrying a victim in a longer distance.

It is very difficult to get the person up to this position from the ground. Getting the victim into position requires a very strong rescuer or an assistant.

Fireman's carry technique was commonly used by firefighters to carry injured or unconscious people away from danger, but has been replaced in firefighting due to the drawback that smoke and heat are greater higher up, and may be fatal to the person being carried. The "fireman's carry" technique is still taught for use outside firefighting. Soldiers use this technique to carry the wounded. Lifeguards are sometimes trained to use the fireman's carry.

7. The blanket drag technique also known as "blanket lift or blanket carry" technique is an effective method for loading or moving a casualty in a confined space.

This technique can be used to transport suspected spinal injured casualties with correct immobilization of the spine and with particular attention paid to the head and neck. This 'blanket carry' can also be used as an improvised stretcher for carries over moderate distances. This technique involves four or six rescuers.

7.8. Additional activities

7.8.1. Remedial Activities

1. The following activities are included in emergency response management except one:
 - a. Hospital Preparedness
 - b. Transportation of victims
 - c. Need Assessment Survey
 - d. Prevention of disaster if possible

Response: D

2. The activities that continue beyond the emergency period to restore lifelines re called:
 - a. Recovery
 - b. Emergency action
 - c. Emergency Preparedness
 - d. Emergency management

Response: A

3. An event requiring rescue operations will usually create three categories of rescue workers except:
 - a. Survivors
 - b. Trained personnel
 - c. The earthquake management specialists
 - d. Untrained personnel

Response: C

4. Before transporting the casualties, it is important to start by sorting them, in order of priority. The yellow color means:
 - a. Deceased, or who are unlikely to survive given the situation.
 - b. These victims have serious injuries, but are not life threatening.
 - c. Minor injuries that can be dealt with by first aid, or can wait for some time without treatment
 - d. Those victims who need immediate advanced medical treatment (within 1 hour) to survive.

Response: B

5. Factors to consider before lifting the casualty by one-person lift are listed below except one:
 - a. Special choice of the victim
 - b. Weight and height of the victim
 - c. Status of the victim (conscious or unconscious)
 - d. Environment (safe, floor is smooth, narrow or wide)

Response: A

7.8.2. Consolidation activities

1. Wheelchair lifts should only be used in an evacuation when _____.
 - a. There is more than one passenger using a wheelchair or other mobility device
 - b. Operated manually and no other viable option is available
 - c. The passenger requests it
 - d. None of the above

Response: B

2. If an unconscious passenger needs to be evacuated using the shoulder drag, the passenger's _____ should be pointed in the direction of the exit location.
 - a. Feet
 - b. Head
 - c. It doesn't matter how they are positioned
 - d. A or B

Response: B

3. If an emergency evacuation were to occur, at minimum the information relayed to dispatch or emergency personnel should be:
- Operator name and vehicle number
 - Current location including concise description of the emergency
 - A request for police and ambulance help
 - All of the above

Response: D

4. During an evacuation, riders should be moved to _____.
- Another vehicle once it arrives
 - A safe distance away from the vehicle
 - A safe distance away from the vehicle, far enough away so that an explosion will not injure evacuated passengers
 - All of the above

Response: C

5. The best exit to use during an evacuation is _____.
- The closest exit
 - The largest exit
 - The exit that is closest to you that will remain open the longest
 - Any of the above

Response: C

6. When assisting in an evacuation, always remember your own _____.
- Family
 - Control
 - Passengers
 - Strengths and limitations

Response: D

7.8.3 Extended activities

1. The following are steps followed to perform pack strap car evacuation technique; arrange them in a correct sequence:
 - a. The rescuer turns his/her back to the standing casualty.
 - b. The rescuer holds casualty's wrists, bends, and pulls the person onto his/her back.
 - c. The arms of casualty must be kept straight as possible, the armpits over the shoulders of rescuer.
 - d. The rescuer after turning the back to the casualty brings the casualty's arms over his/her shoulders to cross his/her chest.

Response:

b)	a)	d)	c)
----	----	----	----

2. _____ is much more deadly than _____.
 - a. Fire, smoke
 - b. Smoke, fire

Response: B

3. What are the factors to consider before lifting the casualty by one-person lift.

Response

- Weight and height of the victim
- Status of the victim (conscious or unconscious)
- Environment (safe, floor is smooth, narrow or wide)
- Special need considerations (injuries of the victims)

8.1. Key unit competence

Take appropriate action based on findings of nursing assessment of cardiovascular system

8.2. Prerequisites

Students will learn better to take appropriate action based on findings of nursing assessment of cardiovascular system if they have understanding of the internal and external structures of heart and vessels as well as their physiology. The ethic and professional code of conduct also are included.

8.3. Cross-cutting issues to be addressed

- Inclusive education

To ensure that learning is inclusive, as a facilitator: Place students with visual impairment in appropriate places. Those with short-sightedness (myopia) must sit on front desks in class. If you have children with low vision, remember to print in appropriate font size (large print). Those with long sightedness must sit on back desks.

- Gender

This course requires the participation of both girls and boys. Make sure that all students are actively involved not only boys.

8.4. Guidance on the introductory activity

Before starting the first lesson of the unit of nursing assessment of cardiovascular system, ask students to attempt an introductory activity. This activity intends to:

- To attract the learner's attention and relate the unit with students' daily life.
- Assess students understanding of the concepts simple wound care.

Methodological steps to the introductory activity

As a facilitator, request students to:

- Carefully observe the learning activity 8.1 in the student book
- In group or in pairs, request them to answer the questions related to the introductory activity.
- Each group records the answers. Let the students know that there are no wrong answers

- Appoint randomly any 2 groups to write their answers on the chalkboard or flipchart.
- Ask other groups members if they have something to add on what is written on the chalkboard or flipchart.

Answers of the introductory activity:

Answer 1:

- The patient on image A is supporting his chest because of pain
- The patient is unable to walk without support
- The patient is not breathing well and is coughing
- The patient is very weak

Answer 2.a)

- The two people are in health facility
- They are in consultation room
- They are in hospitalization room

Answer 2.b)

- The person with white coat is doing heart assessment technique
- The person with white coat is doing chest assessment technique

Answer 3:

The relationship between image B and C is assessment of heart

Answer 4:

The nurse will find sounds of heart beat

Answer 5:

The structures that may be affected are:

Heart (pericardium, endocardium, heart muscle, heart ventricles, heart valves)

Vessels (arteries and veins)

8.5. List of lessons /sub-headings

No	Lesson title	Learning objectives	Number of periods
1	Specific history taking on cardio vascular system	Outline relevant questions to assess cardio vascular system	2
2	General physical examination of cardio vascular system	Conduct general assessment exam on cardiovascular system	1
3	Focused physical examination of cardio vascular system	Use different technique to conduct client physical exam on cardio vascular system	2
4	Interpretation of specific findings on cardiovascular system	Analyze data collected from the client health assessment	1
5	Identification of client problems and nursing interventions based on client's problems	Appreciate the relevant information on cardio vascular system document relevant data collected from client	1
6	End unit assessment	Describe different techniques of physical examination applied to cardiovascular systems.	1
7	Skills lab	Use different techniques to conduct client physical exam on cardio vascular system	1
8	Practical assessment in the skills lab	Demonstrate acquisition of hand on skills to perform techniques of cardio vascular system physical examination.	3

LESSON 1: Specific History taking on cardiovascular system

a. Learning objectives

At the end of the lesson, students will be able to:

Outline relevant questions to assess cardiovascular system

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for Learning activity, manila paper and/or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have a good understanding of anatomy and physiology of cardiovascular system.

d. Learning activity 8.1

Guidance

- As a facilitator, form groups of 5 students depending on their class size
- Ask students to attempt the learning activity 8.1
- Move around groups guiding and facilitating them
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- The learning activity 8.1 is written in students' book. However, you can use the pictures and ask more questions to the students.
- Select like 3 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability or visual impairment get what you say.

Answers to learning activity 8.1

Answer 1 a)

The Chief complains the client may present are:

- Shortness of breath
- Chest pain
- Dyspnea
- Palpitation
- Syncope
- Edema
- Fatigue
- Hemoptysis

Answer 1b)

The questions a nurse will ask to the client for more understanding the client's heart's problems

- Have you noticed any excessive sweating? Describe features?
- Have you had difficulty sleeping? How many pillows do you use? Do you awaken short of breath?
- Do you have blood in your expectoration?
- Have you been especially fatigued or tired?
- Have you noticed any swelling in your feet, legs, or hands?
- Have you had a loss of consciousness?
- Do you notice that your heart is beating faster? Are you having skipped or extra beats?
- Do you have chest pain or discomfort?
- Have you had any shortness of breath? Describe features?
- Any history of angina?
- Any family history of cardiac diseases?
- Any heart congenital abnormality?
- Lifestyle and habit (sports, smoking...)
- Any cardiac procedures or operations (type and date of intervention and outcome). Previous levels of lipids if ever checked or known.
- Ask whether there is any history of rheumatic fever or heart problems as a child.

Answer 2

The history taking is important because it may be more telling than the physical examination. It is important to take a deep history for signs and symptoms of heart diseases but also to alert the patient to the need for lifestyle education

Answers to self-assessment 8.1

Multiple choices questions

Question number	Answer
1	B
2	C
3	C
4	D
5	E

LESSON 2: General physical examination of cardiovascular

a. Learning objectives

At the end of the lesson, students will be able to:

Collect relevant information specific to cardiovascular system

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have a good understanding of anatomy and physiology of cardiovascular system and cardiovascular history taking.

d. Learning activity 8.2

Guidance

- As a facilitator, form groups of 5 students depending on their class size
- Ask students to attempt the attempt activity 8. 2
- Move around groups guiding and facilitating them
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- The learning activity 8. 2 is written in students' book. However, you can use the pictures and ask more questions to the students.
- Select like 4 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.

- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability or visual impairment get what you say.
- Guide students to take notes in their notebooks

Answers to learning activity 8.2

Answer 1 A:

Image A shows 4 locations of heart auscultation

Answer 1 B:

The nurse is using stethoscope for heart auscultation

Answer 1 C:

The causes of inadequate oxygenation in blood is that when the heart is not able to pump the blood the organs will not receive oxygen

Answer 1 D:

The nurse can feel the heart beat on that left side of client's chest

Answers to self-assessment 8.2

Answer 1:

It is crucial to assess the level consciousness to the client with cardiovascular problem firstly because patients with impaired blood circulation may become irritable, somnolent, restless, confused, or aggressive

Answer 2:

Capillary Refill is performed to the patient with poor blood circulation for monitoring the amount of blood flow to tissues and dehydration.

Answer 3:

It is necessary to assess the skin of patient with cardiovascular problems because this will show if the patient have pallor and cyanosis or not

Answer 4:

The cause of this jugular vein distension is increasing of pressure inside of vein cava

LESSON 3: Focused physical examination of cardiovascular system

a. Learning objectives

At the end of the lesson, students will be able to:

Describe different techniques of physical examination applied to cardiovascular systems

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if cardiovascular history taking.

d. Learning activity 8.3

Guidance of learning activity 8.3

- As a facilitator, form groups of 5 students depending on their class size
- Ask students to attempt the attempt activity 8. 3
- Move around groups guiding and facilitating them
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- The learning activity 8.3 is written in students' book. However, you can use the pictures and ask more questions to the students.
- Select like 4 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability or visual impairment get what you say.
- Guide students to take notes in their notebooks

Answers to activity 8.3

Answer 1:

A: The nurse is palpating to the heart

B: The nurse is auscultating to the heart

C: It shows different tubes used to collect blood sample in laboratory

Answer 2:

The common between A and B are all about assessment of the heart

Answer to Self-assessment 8.3

Answer 1:

The element/phase most useful during cardiovascular physical examination is Auscultation

Answer 2:

During inspection to the patient with cardiovascular problem, on the skin the nurse will focus on extremities

Answer 3:

It important to know Hemoglobin level this will show you if patient has anemia or not, and many types of cardiac disease can cause or be caused by anemia.

Answer 4:

Two points to be noted by the nurse related to heart sound are rate and rhythm

Answer 5:

Hepatojugular is the distension of the neck veins caused by applying forceful pressure to the liver.

LESSON 4: Interpretation of specific findings on cardiovascular system

a. Learning objectives

At the end of the lesson, students will be able to: Analyze data collected from the client health assessment.

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if he/she knows the history taking and physical examination of cardiovascular system.

d. Learning activity 8.4

Guidance of activity 8.4

- As a facilitator, form groups of 5 students depending on their class size
- Ask students to attempt the attempt activity 8.4
- Move around groups guiding and facilitating them
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- The learning activity 8.4 is written in students' book. However, you can use the pictures and ask more questions to the students.
- Select like 4 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability or visual impairment get what you say.
- Guide students to take notes in their notebooks

Answers to activity 8.4

Answer 1:

There are two normal heart sounds that should be elicited in auscultation: S1 (lub) and S2 (dub).

The normal findings from inspection to cardiovascular system are:

- The absence of chest deformity,
- The absence of extremities discoloration, and cold,
- The absence of extremities edema
- The absence of jugular vein distension
- The absence of diaphoresis

The normal findings from palpation:

- Regular heart beat/pulsation
- Capirally refill < 2seconds

Answer 2:

Hemoglobin normal value: 11.5-15gr/dl

Anemia

Answer to Self-assessment 8.4

Question number	Answer
1	C
2	D
3	B

LESSON 5: Identification of client's problems and nursing interventions based on client's problems**a. Learning objectives**

At the end of the lesson, students will be able to:

- Appreciate the relevant information on cardio vascular system
- Document relevant data collected from client
- Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for Learning activity, manila paper and or flipchart, black board and chalk.

b. Prerequisites

Students will learn better the content of this lesson if they have a good understanding of anatomy and physiology of cardiovascular system, cardiovascular history taking and focused cardiovascular physical examination.

c. Learning activity 8.5**Guidance of learning activity 8.5**

- As a facilitator, form groups of 5 students depending on the class size
- Ask students to attempt the activity 8. 5 in student book
- Move around groups guiding and facilitating them
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- The learning activity 8.5 is written in students' book. However, you can use the pictures and ask more questions to the students.

- Select like 4 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability or visual impairment get what you say.
- Guide students to take notes in their notebooks

Answers to learning activity 8.5

Answer 1:

Description of the image A about different observations hosted in it?

- Heart image
- Blood pressure machine
- Electrocardiogram image in heart

Answer 2:

Relationship of observation with cardiovascular problems' identification

- **Heart image** is showing the main organ to be assessed
- **Blood pressure machine** is showing the main vital sign on heart functioning
- **Electrocardiogram image** in heart is showing the heart's electrical activity

Answer 3:

What are different nursing interventions are observed on image B?

- **Bed making:** A nurse should assess the comfort of patient in bed
- **Positioning patient:** A nurse should assure a comfortable position for breathing and circulation
- **Drug administration:** A nurse has to assess the cardiovascular drugs taken by a patient or administering others according to physician prescription
- **History taking:** A nurse has to collect daily information to patient and make a nursing care plan
- **Vital signs monitoring:** A physical assessment is a key to know patient's blood pressure and pulse as well as respiration rate

Answers to self-assessment 8.5

Answer 1:

A/The structure of heart muscle in case of cardiomyopathy is unusually big, thick, or stiff.

B/ Cardiomyopathy may sometimes run in families, but it can also be caused by high blood pressure, diabetes, obesity, metabolic diseases, or infections.

Answer 2:

Strokes happen when something slows or blocks blood flow to the brain.

Answer 3:

In case of patient's stroke the nurse observes that the patient's body doesn't work like it should

Answer 4:

Nursing Interventions

- Monitor for symptoms of heart failure. *Observe for chest pain or discomfort.
- Place patient on cardiac monitor.
- Assess blood pressure carefully
- Administer nitroglycerin with medical doctor order.
- Place oxygen.
- Ensure that the IV is in place for emergency use.
- Notify physician.
- Monitor edema, intake, and output.
- Weigh patient daily.
- Auscultate lung and heart sounds. *Administer diuretic with order.
- Elevate head of bed for dyspnea

LESSON 6: End unit assessment

In lesson 6 students will be given theoretical assessment. Allow them to attempt questions of the end unit assessment. Request them to close all their books and attempt the assessment on a piece of paper. This theoretical assessment should be completed in 1 period meaning in 40 minutes.

LESSON 7: Skills lab

a. Learning objectives

At the end of the lesson, students will be able to:

Use different techniques to conduct client physical exam on cardiovascular system

b. Learning resources

Student book, procedure's checklist and video showing the technique of cardiovascular physical examination

c. Introduction

This lesson is designed for student self-learning with facilitation in the simulation laboratory.

d. Prerequisites

Students will learn better the content of this lesson if they have a good understanding of anatomy and physiology of cardiovascular system, history taking and physical examination.

e. Learning activity 8.7

- Prepare 3 stations in the simulation laboratory, each technique with its own station. Avail all equipment in each station. Pair students in groups of two.
- Inform them to go in the skills laboratory and perform all techniques of cardiovascular physical examination learnt by each other.
- As a teacher be around and give the time for each group to perform cardiovascular history taking and physical examination under your observation.
- Address the comment and correct them accordingly
- Move to another group and do the same until the all groups have been guided

LESSON 8: Practical assessment (OSCE)

a. Learning objective

Demonstrate acquisition of hands on skills to perform techniques of cardiovascular physical examination

b. Introduction

This session is reserved for objective structured exam (OSCE) and it has only 2 periods meaning that it should be completed in 80 minutes.

c. Activity

Guidance

- Arrange 3 stations in the skills lab; station 1 will be for palpation 2 will be for percussion 3 will be for auscultation.

- Request 3 facilitators (teachers) to help you out in this activity.
- Arrange check lists for each technique and dispose them in their respective stations.
- Each teacher will be in one station, using designed checklist to assign marks to each student rotating in that station.
- Each student should rotate in each station to be assessed if he/she has acquired skills of respiratory physical examination.
- Compile marks for each station.
- Guide Students who failed to pass the OSCE, to do the remedial activities.

8.6. Summary of the unit

The nursing assessment of cardiovascular system provides valuable information about the function of a patient's cardiovascular system. Understanding how to properly assess the cardiovascular system and identifying both normal and abnormal assessment findings will allow the nurse to provide quality, safe care to the patient.

In general, the evaluation of cardiovascular system includes a thorough medical history, a detailed physical examination of the heart and the peripheral arterial and venous circulations, and appropriate laboratory studies. In addition to the electrocardiogram and chest x-ray, the availability of sophisticated noninvasive techniques (e.g., echocardiography and nuclear cardiology) and the continued improvement of cardiac catheterization and angiography have significantly enhanced the clinical work-up of the patient with a cardiovascular problem.

A careful assessment will enable the clinician to identify the etiologic, anatomic, and physiologic components of a specific cardiovascular disorder, as well as to determine overall cardiac function. Screening the cardiovascular system is also an important and necessary act to ensure patient safety, appropriate referral, and timely medical management. The most basic screening includes a measurement of resting blood pressure (BP) and heart rate (HR).

Cardiovascular diseases are conditions that affect the structures or functions of heart; those conditions are also the leading cause of death. The client's cardiovascular problems arise in heart rhythms, heart great vessels, heart muscle, heart valves, heart layers and peripheral vessels.

8.7 Additional information for teachers

Below is additional information about cardiovascular assessment

Vascular abnormalities:

Venous ulcers

Venous ulcers result from venous hypertension. These ulcers, the most commonly occurring lower leg ulcers, are found around the ankle, as shown.

Lymphatic ulcers

Lymphatic ulcers result from lymphedema, in which the capillaries are compressed by thickened tissue, which occludes blood flow to the skin. Lymphatic ulcers are extremely difficult to treat because of the reduced blood flow. This photo shows a patient with lymphedema of the leg and a large lymphatic ulcer.

Arterial ulcers

Arterial ulcers result from arterial occlusive disease caused by insufficient blood flow to tissue due to arterial insufficiency. They're commonly found at the distal ends of arterial branches, especially at the tips of the toes, the corners of nail beds, or over bony prominences, as shown.

Arterial insufficiency

In a patient with arterial insufficiency, pulses may be decreased or absent. The skin is cool, pale, and shiny, hair loss occurs in the area, and the patient may have pain in the legs and feet. Ulcerations typically occur in the area around the toes, and the foot usually turns deep red when dependent. Nails may be thick and ridged.

Chronic venous insufficiency

In a patient with chronic venous insufficiency, ulcerations develop around the ankle. Pulses are present but may be difficult to find because of edema. The foot may become cyanotic when dependent.

8.8 Answers for end unit assessment

Multiple choice questions:

1	2	3	4	5	6	7	8	9	10
A	C	D	C	C	B	D	A	C	A

Matching question:

A/ Heart symptom with meaning

1	2	3	4
D	C	E	A

Short answer questions

1. The symptoms of cardiovascular problems:
 - Dyspnea
 - Palpitation
 - Edema
 - Diaphoresis
 - Fatigue
 - Orthopnea
 - Hemoptysis
2. The subjective sensation of conscious perception of heart beats is labeled/ called '**palpitation**'
3. The elements of family history:
 - Collect information if hypertension, hyperlipidemia, and other vascular diseases in family
 - Ask if there are deaths in the family related to cardiovascular disease and determine age
 - Ask about sudden death, which might indicate a congenital disease

8.9. additional activities

8.9.1. Remedial activities

The use of the following remedial activities will help slow students or those students who had issues leading to poor performance to eliminate their weaknesses or deficiencies. And then give the opportunity to answer to the following questions.

1. Define Dyspnea

Answer

Dyspnea is a state of shortness of breath described as an intense tightening in the chest, air hunger, difficulty breathing, breathlessness or a feeling of suffocation.

2. What does cardiovascular history taking focus on?

Answer:

- Collect information if hypertension, hyperlipidemia, and other vascular diseases in family
 - Ask if there are deaths in the family related to cardiovascular disease and determine age
 - Ask about sudden death, which might indicate a congenital disease
3. Why should a nurse assess for color of the skin and mucous membrane during general examination?

Answer:

This may show cyanosis; a bluish discoloration of the skin due to poor circulation or inadequate oxygenation of the blood. Cyanosis may suggest inadequate oxygenation and cardio vascular compromise.

4. List the 5 heart auscultation points?

Answer:

Aortic, Pulmonic, Erb's, Tricuspid, Mitral

5. For which sequence should a nurse conduct chest physical examination for cardiovascular problem?

Answer:

Inspection, palpation, percussion, auscultation

6. Perform a 5 minutes long in heart physical examination on mannequin in skills lab

Answer

Heart physical examination checklist

- a. What is the normal value of Sodium (Na⁺) in blood when assessing cardiac problem?

Answer: 135–145 mEq

- b. Recall the importance of Sodium?

Answer

Sodium (Na⁺) is important for fluid balance particularly when dehydration may be an issue or in heart failure, where Na⁺ less than 130 indicates a poor prognosis.

8.9.2. Consolidation activities

Match the column A with their respective meaning in colom B

COLUMN A (Terms)	COLUMN B (Definition)
Tingling	A. It is when the increased pressure of the superior vena cava causes the jugular vein to bulge, making it most visible on the right side of a person's neck.
Capillary Refill	B. Is a rapid test used for assessing the blood flow through peripheral tissues
Jugular vein distension	C. Is the loss of sensation due to restricting the flow of blood, and blood cannot reach the extremities
Auscultation	D. It is act of looking at something or someone carefully require the use of the eye of health care provider to observe the client for pallor and extremities for cyanosis
Dullness:	E. It is a method used to listen to the sounds of the body during a physical examination by using a stethoscope.
Tachycardia	F. Excessive cardiac frequency, high to the normal, more than 100 beatings per minutes for adult
Inspection	G. It is a feeling of constant tiredness or weakness and can be physical, mental or a combination of both a common symptom of decreased cardiac output.
Chest pain	H. It is solid structure on the heart with a fluid-filled area occur due to dilation of the heart chambers and to a lesser extent due to thickening (hypertrophy) of myocardial wall
Syncope	I. Is a sensation of pressure or a squeezing sensation, especially after exertion; the coronary arteries supply blood to the heart muscle
10. Fatigue	J. Transient loss of consciousness in seconds or minute but is not coma
	K. Low heartbeat rate, less than 60 beatings per minute for an adult person

Answers

1	2	3	5	5	6	7	8	9	10
C	B	A	E	H	F	D	I	J	G

8.9.3. Extended activities

1. What is weak pulse?

Answer

Is the pulse which is difficult to feel, that it is hardly audible, that means that the power of the beating is lower than normal.

2. What is Bradycardia?

Answer

Low heartbeat rate, less than 60 beatings per minute for an adult person

3. What are the nursing interventions in patient with cardiovascular problem?

Answer

Assess blood pressure carefully

Put the patient on a heart monitor

Monitor edema, intake, and output

Listen to the heart and lungs

4. Explain why it is necessary to take laboratory exams in patient with cardiovascular problems?

Answer

These laboratory exams are helpful in diagnosing, monitoring, and treating a variety of health conditions, including heart disease

5. What are the signs that you will focus on while you assess patient with heart failure

Answer

- Swelling of extremities
- Shortness of breath

9.1 Key unit competence

Take appropriate action based on findings of nursing assessment of digestive system

9.2. Prerequisites

Students will learn better to take appropriate action based on findings of nursing assessment of digestive system if they have understanding of the anatomy and physiology of digestive system and Nursing ethics and professional code of conduct.

Anatomy refers to the internal and external structures of the body and their physical relationships, whereas physiology refers to the study of the functions of those structures. Understanding the Nursing ethics and professional code of conduct will guide students in making correct decision while giving care to patients.

9.3. Cross-cutting issues to be addressed

a. Inclusive education

To ensure that learning is inclusive, as a facilitator: Place students with visual impairment in appropriate places. Those with short-sightedness (myopia) must sit on front desks in class. If you have students with low vision, remember to print in appropriate font size (large print). Those with long sightedness must sit on back desks. Students with chronic digestive issues, should be engaged in the lessons without rather being frustrated or distracted by thinking about themselves during the course.

b. Gender

This course will involve both girls and boys. There is no activity reserved for boys only or girls only. The teacher will ensure equal participation of both girls and boys during learning activities as well as cleaning, rearranging and tidying up after performance of different procedures.

c. Peace and Values Education

During group activities, discussions, brainstorming, and self-practice, the teacher will encourage learners to help each other and respect opinions of colleagues, working in harmony and avoid conflicts.

9.4 Guidance on the introductory activity

Before starting the first lesson of the unit of digestive system assessment, ask students to attempt an introductory activity. This activity intends to:

- To attract the learner's attention and relate the unit with students' experience.
- Assess students understanding of the concepts of digestive system assessment.

Methodological steps to the introductory activity

As a facilitator, request students to:

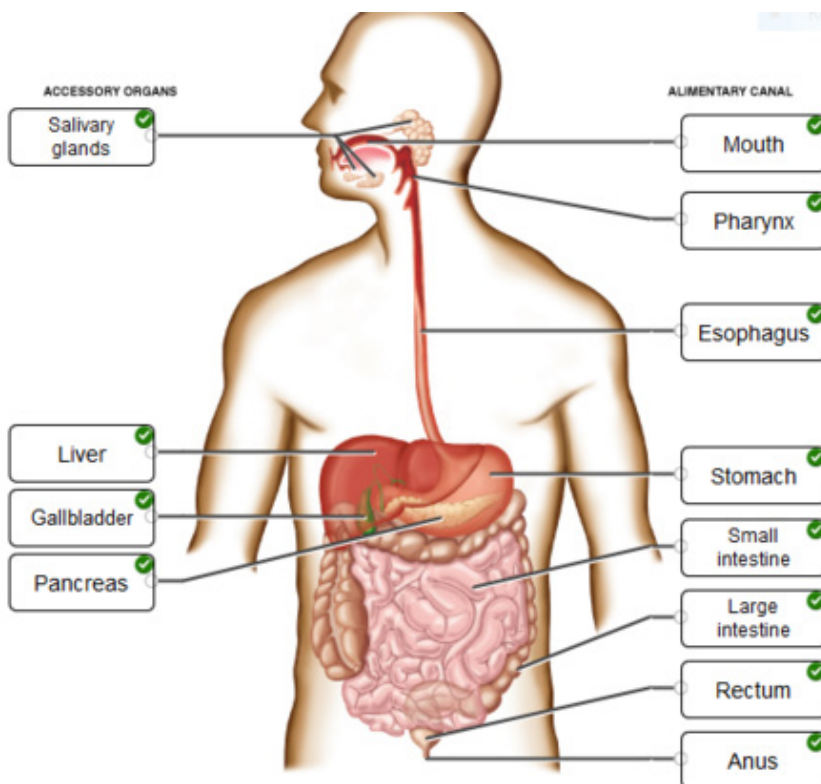
- Carefully observe activity 9 in the student book
- Ask volunteers to share their experiences related to image a, b and c
- Let the students know that there are no wrong answers

Answers of the introductory activity 9

Answer to question 1:

Using the given picture or an anatomic chart, indicate the track as follows:

Mouth-with salivary gland-pharinx-oesophagus-stomach-liver-gallbladder-pancreas-small intestine, large intestine-rectum-anus



9.5 LIST OF LESSONS /SUB-HEADINGS

Answer to question 2:

The person represents a man who has nausea and is about to vomit. His hand represents an abdominal pain. He has a face of suffering. Let students tell their history about these discomforts to introduce the unit.

Answer to question 3:

Note if students discover the stethoscope, the use of this on the abdomen, the rationale in the assessment of digestive system.

No	Title of lessons	Learning objectives	Number of periods
1	Overview of the digestive system and terminologies used	Recognize the medical terminologies related to the digestive system	1
2	History taking on digestive system	Outline relevant questions to assess digestive system	2
3	Physical examination of digestive system	Conduct physical examination of digestive system	2
4	Interpretation of specific findings on digestive system	Analyze data collected from the client health assessment	1
5	Identification of client problems	Identify client's problems related to digestive system	1
6	Nursing intervention based on patient's problem	Appreciate the relevant information on digestive system	2
7	Self-learning in Simulation lab	Use different techniques to conduct client physical exam on digestive system	2
8	End unit assessment	All lessons	1
	TOTAL		12

Lesson 1: Overview of the digestive system and terminologies used

a. Learning objectives

At the end of this lesson, learners will be able to:

- Describe the anatomy and physiology of the human digestive system
- Recognize the medical terminologies related to the digestive system

b. Teaching resources

Books, videos, images illustrated in student's book.

The teacher prepares a number of medical/nursing dictionaries, minimum one per pair of students.

Where possible, advise the students to use the computers to download the book, or for research.

The teacher will use blackboard and chalks, Flipcharts.

c. Introduction

In this lesson, senior five students will recall the anatomy and physiology of the digestive system and learn different prefixes, suffixes and word root used to formulate medical terminologies related to the digestive system.

Learning activity 9.1.

Guidance

- Before introducing the lesson, you have to introduce the whole unit.
- As a facilitator, form groups of 5 students depending on their class size
- Ask students to attempt the attempt activity 9.1

The teacher asks a group of students to comment one by one the process shown by the picture 9.1. of the alimentary canal and the duration that each step takes.

Answer to question 1:

Using the chart (anatomic model) students describe the digestive tract. And every one shows the location of the appendix

Answer to question 2:

The teacher gives the tasks to explain the term “**appendectomy**”

Appendic(o) refers to the appendix, ectomy refers to excision (surgical removal or cutting out)

Appendectomy is an operation to remove the appendix when it has become inflamed.

As an application for the lesson, the teacher invites student to elaborate examples of locutions or words wrongly used by patients and their correct writing.

Self-assessment 9.1.

Answers

- The main three components of the digestive system are the following
 - Upper gastro intestinal tract (oral cavity, esophagus and duodenum)
 - Lower gastro intestinal tract (small intestine, cecum, colon, rectum, and anus)
 - Associated glandular organs (gallbladder, pancreas and liver)
- I have a fire in my stomach. Heartburn
 - I can't stop running to the toilet, since this night, I went 6 times: Diarrhea
 - The knife is cutting my abdomen into two parts. Acute abdominal pain
 - I have a stone in the anal region with difficult to go to the toilet: Constipation
- Relate the terminologies with their meaning

Terminologies	Meaning
1. Appendicitis	A. Difficulty in Swallowing
2 Colostomy	B. Vomiting of blood
3 Dysphagia	C. inflammation of the appendix
4 Hepatomegaly	D. Surgery to create an opening form the large intestine to the surface of the abdomen
5 Hematemesis	E. Enlarged liver

Answers: 1-C; 2-D; 3-A; 4-E; 5-B

Lesson 2: History taking on digestive system

a. Learning objectives

At the end of this lesson, learners will be to:

- Outline relevant questions to assess digestive system
- Take patient history related to digestive system appropriately

b. Teaching resources

Books, videos, images illustrated in student's book, blackboard and chalks, Flipcharts, computer, projector.

c. Introduction

In lesson, learners will acquire the skills related to history taking on digestive system.

Guidance

- Ask students to attempt the attempt activity 9.2
- Use a role play method, students will practice in pairs
- Two students do the exercise by simulating the scenario of history taking, others observe.
- The learning activity 9.2. is written in students' book. However, you can use the pictures and ask more questions to the students.
- Select 3 couples randomly to show their sketch
- Ask the remaining students to add any ideas on what other have presented.
- Allow the class to ask questions related to the presented topic.
- Clap for the voluntary groups which performed the role play.

Learning activity 9.2.

Answer to question 1:

Image A. Student /the nurse is taking information from the patient to obtain a clear and detailed picture of the patient's complaints.

Image B represents a patient suffering from heartburn

Answer to question 2:

The Common symptoms of the gastro intestinal tract are nausea, vomiting, heartburn, dysphagia, odynophagia, diarrhea, constipation, dyspepsia, abdominal pain, hematochezia, melena, altered bowel habit, jaundice, weight loss, ...

Self-assessment 9.2.

Guidance

- Ask students to attempt the attempt the self -assessment 9.2
- Use a role play method, students will practice in pairs
- Two students do the exercise by simulating the scenario of history taking, others observe.
- The application activity 9.2. is written in students' book.
- Select 3 couples randomly to show their sketch
- Ask the remaining students to add any ideas on what other have presented.
- Allow the class to ask questions related to the presented topic.
- Clap for the voluntary groups which performed the role play.

Show students a video of history taking, then after watching the video, they do a role play of history taking on digestive system in pairs

Lesson 3: Physical examination of digestive system

a. Objectives

At the end of the lesson, students will be able to:

- Conduct of physical examination of digestive system
- Collect relevant information specific to digestive system

b. Teaching resources

The needed teaching resources are: computer, projector, video, illustrated pictures in the students' book and pictures for Learning activity, manila paper and or flipchart, black board and chalk. Sanitizer, bed or consultation table, examination gloves, dustbin.

c. Activity

Answer:

1. The physical assessment includes

Available examination room and list below of material

disinfecting and sanitizing solution, an audioscope, examination light, laryngeal mirror, nasal speculum, otoscope, penlight, percussion hammer, sphygmomanometer, stethoscope, thermometer, tuning fork, cotton balls, cotton-tipped applicators, disposable needles, disposable syringes, gauze, dressings and bandages, gloves, paper tissues, specimen containers, and tongue depressors. Gauze, gloves, paper tissue, specimen containers – used to hold stool, blood, urine and other bodily fluids during an examination for later laboratory testing.

2. Techniques used

The four main techniques to identify the gastrointestinal problems are inspection, palpation auscultation, and percussion,

Guidance

- As a facilitator, form groups of 5 students depending on their class size
- Ask students to attempt the attempt activity 9.3
- Move around groups guiding and facilitating them
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- The learning activity 9.3 is written in students' book. However, you can use the pictures and ask more questions to the students.
- Select like 4 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.

- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability or visual impairment get what you say.
- Guide students to take notes in their notebooks

a. Objective

At the end of the lesson, students will be able to:

Describe different techniques of physical examination applied to digestive systems

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for Learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have a good understanding of anatomy and physiology of respiratory system and respiratory history taking.

d. Learning activity 9.5.3

see note above.

Guidance of learning activity 9.5.3

- As a facilitator, form groups of 5 students depending on their class size
- Ask students to attempt the attempt activity 9.3
- Move around groups guiding and facilitating them
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- The learning activity 9.3 is written in students' book. However, you can use the pictures and ask more questions to the students.
- Select like 4 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.

- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability or visual impairment get what you say.
- Guide students to take notes in their notebooks

Self-assessment 9.3

Answer whether the statement is true or false

1. During physical examination communication have be respectful and the procedure is performed in a culturally-sensitive manner. true
2. For the purpose of assessment, the abdomen is divided into four quadrants. true
3. Palpation is always done before auscultation for physical assessment of the digestive system false
4. The client is asked if he/she has any areas of pain before beginning palpation and the painful areas are palpated first to identify any emergency situation. true
5. Tympanic sound is heard when percussing the liver. true
6. Dullness is usually predominant while percussing the abdomen. true

Lesson 4: Interpretation of specific findings and client's problems identification

a. Objective

At the end of the lesson, students will be able to:

Analyze data collected from the client health assessment

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for Learning activity, manila paper and or flipchart, black board and chalk.

c. prerequisites

Students will learn better the content of this lesson if they have a good understanding of anatomy and physiology of digestive system and digestive history taking and general as well as focused digestive physical examination.

d. Learning activity 9.5.4

Guidance of learning activity 9.4

- As a facilitator, form groups of 5 students depending on their class size
- Ask students to attempt the attempt activity 9. 4
- Move around groups guiding and facilitating them
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- The activity 8.4 is written in students' book. However, you can use the pictures and ask more questions to the students.
- Select like 4 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability or visual impairment get what you say.
- Guide students to take notes in their notebooks

Answers to activity 9.4

Answer to question 1:

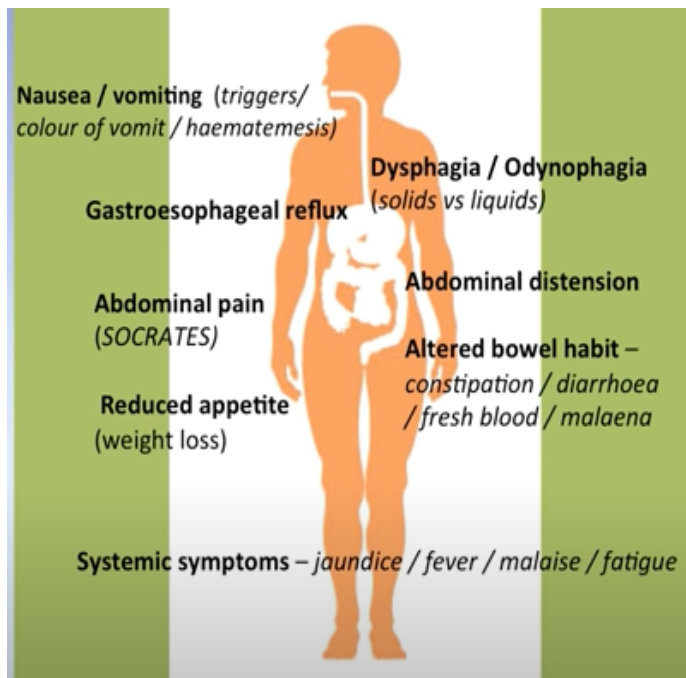
Imbalanced nutrition, Impaired swallowing. Obesity overweigh abnormal distention

Pain, diarrhea, constipation bowel incontinence, excess fluid volume, deficient fluid volume

Fatigue, risk for infection, lack of knowledge, anxiety, disturbed body image

Answer to question 2:

Common symptoms of the gastro intestinal tract



Nausea, vomiting, heartburn, dysphagia, odynophagia, diarrhea, constipation, dyspepsia, abdominal pain, hematochezia, melena, altered bowel habit, jaundice, weight loss, abnormal lab values.

Self -assessment 9.4

Answer

Physical assessment findings

Tachycardia, Fever, jaundice, hepatomegaly Imbalanced nutrition, severe weight loss, fatigue

LABORATORY DATA:

- Aspartate aminotransferase (AST) 150 U/L normal <48u/l = **Liver dysfunction, cirrhosis, hepatitis**
- Alanine aminotransferase (ALT) 60 U/L normal <42u/l = **Liver dysfunction, cirrhosis, hepatitis**
- Total Bilirubin 22 mg/dl 32 mg/dL normal ≤ 1.3 mg/dl = **Liver dysfunction, cirrhosis, hepatitis, cholecystitis**
- During, hospitalization WBC rose to 42,000/mm³; 3.8-10.8*10³/mm³ = **Infection of stress response of pancreatitis, GI bleed**

Lesson 5: Identification of client problems

a. Learning objectives

At the end of the lesson, students will be able to:

Identify client's problems related to digestive system

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for Learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have a good understanding of anatomy and physiology of digestive system, digestive history taking, Interpretation of specific findings of physical examination and laboratory tests.

d. activity

Picture A represents a person with episode of eating large quantities of food (very quickly and to the point of discomfort).

Excessive consumption of food is bad for your health. People with such eating disorders can have a variety of symptoms: food binges and purging behaviors like stomach cramps, vomiting, obesity, weight stigma, other non-specific gastrointestinal complaints (constipation, acid reflux, etc).

Picture B represents a person with lack of consumption of food/loss of appetite

This attitude is different from picture A. This condition represented lead to severe restriction of food excessive, anorexia, loss of weight, dehydration, malnutrition.

Picture C: The patient has abdominal pain with defense at the right side of abdomen
The pain that occurs here - especially on the right side or in the centre of the body - is associated with liver and gallbladder problems.

Picture D: The patient has abdominal pain. The pain that occurs here - especially on the right side the patient complains of a burning sensation on the side of the abdomen. When the cause is intestinal, the pain in the abdomen may be accompanied by vomiting, sweating or even malaise.

Guidance of learning activity

- As a facilitator, form groups of 5 students depending on their class size
- Ask students to attempt the attempt activity
- Move around groups guiding and facilitating them

- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- The learning activity 9.5.5 is written in students' book. However, you can use these pictures and ask more questions to the students.
- Select like 4 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability or visual impairment get what you say.
- Guide students to take notes in their notebooks about selected problem such as the normal range, problem statement and nursing diagnosis, Pain and its location, eating disorders and ascites
- Ask students to memorize the helpful mnemonic "SOCRATES" using their own method.
- Ask student to conclude on the comments of the pictures

Self -assessment 9.5

The level the pain is high. Using the given diagram of the quadrants of the abdomen, the region "8" suffering is the hypogastrium, indicating problems of the bladder, the sigmoid colon, and the female reproductive organs.

Lesson 6. Nursing intervention based on patient's problem

This is the sixth lesson of the unit which should be tough in 2 periods and will cover the nursing intervention of digestive system assessment.

a. objective

At the end of the lesson, students will be able to: appreciate the relevant information on digestive system for intervention.

b. Learning resources

Student book, procedure's checklist and video showing the technique for intervention.

c. Introduction

This lesson is designed for student with teacher's facilitation draw a sheet for intervention according to the problem identified in clinical assessment.

d. Prerequisites

Students will learn better the content of this lesson if they have a good understanding of anatomy and physiology of digestive system and examination parameters

e. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for Learning activity, manila paper and or flipchart, black board and chalk.

f. Learning activity

The case study referring to the peptic ulcer problem, each student draws a table of intervention to implement the appropriate care for this transit disorder.

Nursing care statement

The goals for the patient may include:

- Relief of pain.
- Reduced anxiety.
- Maintenance of nutritional requirements.
- Knowledge about the management and prevention of ulcer recurrence.
- Absence of complications.

Nursing interventions for the patient may include:

- Administer prescribed medications.
- Avoid aspirin, which is an anticoagulant, and foods and beverages that contain acid-enhancing caffeine (colas, tea, coffee, chocolate), along with decaffeinated coffee.
- Encourage patient to eat regularly spaced meals in a relaxed atmosphere; obtain regular weights and encourage dietary modifications.
- Encourage relaxation techniques.

As a teacher be around guiding them to select intervention as mentioned in the student book.

Self -assessment 9.6

- Proceed as at activity, plan for patient attitude: Reducing Anxiety
- Encourage patient to express fears openly and without criticism.
- Explain diagnostic tests and administering medications on schedule

- Interact in a relaxing manner, help in identifying stressors, and explain effective coping techniques and relaxation methods.
- Encourage family to participate in care, and give emotional support.

Lesson 7: Self learning Skills lab

This is the seventh lesson of the unit which should be taught in 1 period and will cover the practice of respiratory system assessment.

a. Learning objectives

At the end of the lesson, students will be able to:

Use different techniques to conduct client physical exam on digestive system

b. Learning resources

Equipped skill's lab, student book, procedure's checklist and video showing the technique of digestive physical examination,

c. Introduction

This lesson is designed for student self-learning with classmate facilitation in the simulation laboratory.

d. Prerequisites

Students will learn better the content of this lesson if they have a good understanding of anatomy and physiology of digestive system and examination parameters

e. activity

- Prepare 3 stations in the simulation laboratory, each technique with its own station. Avail all equipment in each station. Pair students in groups of two.
- Inform them to go in the skills laboratory and perform the selected techniques of digestive physical examination learnt.

Four techniques/phases for physical examination

Inspection – palpation – percussion – auscultation

9.6 Summary of the unit

Digestive system assessment is very crucial to ensure the appropriate management of each client. It is made up of different organs (mouth, esophagus, stomach, small intestine, large intestine and anus and glands, pancreas gall bladder and liver.

The digestive processes are ingestion, propulsion, mechanical digestion, chemical digestion, absorption, and defecation

The digestive system is uniquely constructed to do its job of turning food into the nutrients and energy needed to survive. When it's done with that, it handily packages

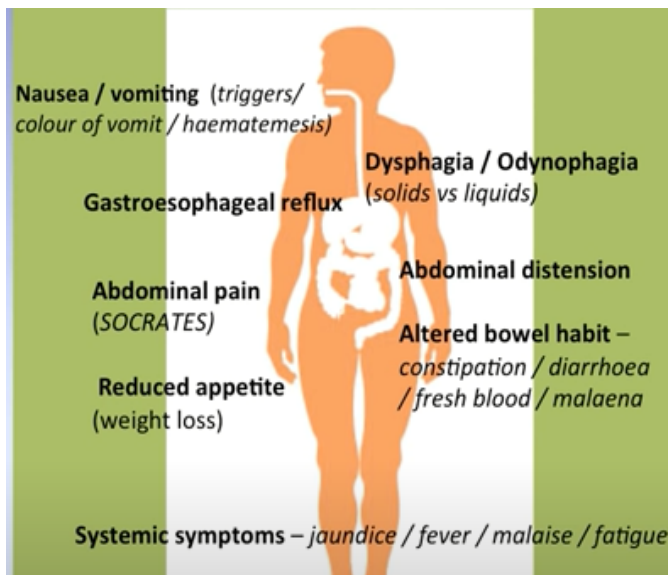
solid waste, or stool, for disposal when there is a bowel movement.

This is important to be recalled on the beginning to make a link between normal structure and functions and abnormal situation.

The practical component of this unit covers the following particular subjects using specific techniques on each level:

- Specific history taking,
- Specific physical examination,
- General examination
- Focused examination of the system (inspection, palpation percussion, auscultation)
- Interpretation of specific findings
- Elaboration of nursing interventions.

Short-term or temporary conditions that affect the digestive system are summary shown in the Image below



The use of the skill's lab using s checklist will help to evaluate the unit competence. The student by assessing the patient will

Recognize different organs of the digestive system and describe abdominal wall.

Predict different signs and symptoms related to pathologic conditions.

Suggest required for nursing diagnosis and treatment.

Predict effects of gastrointestinal disorders on general health

9.7 Additional Information

Some indications of conditions that require particular follow-up attention can be pointed out to students:

- The results of physical examinations can lead to an in-depth investigation which may identify cases of intestinal worm, intoxication of meat from diseased animals.
- Research has documented that peptic ulcers result from infection with the gram-negative bacteria *H. pylori*, which may be acquired through ingestion of food and water. *H. pylori* damage the mucous coating that protects the stomach and duodenum.
- Excessive secretion of HCl in the stomach may contribute to the formation of peptic ulcers.
- Physical examination of digestive system can help to discover Cancer. Cancers that affect tissues and organs in the digestive system are called gastrointestinal cancers. There are multiple kinds of GI cancers. The most common digestive system cancers include esophageal cancer, gastric (stomach) cancer, colon and rectal (colorectal) cancer, pancreatic cancer and liver cancer.
- Crohn's disease is a lifelong form of inflammatory bowel disease (IBD). The condition irritates the digestive tract.
- Celiac disease is an autoimmune disorder that can damage your small intestine. The damage happens when a person consumes gluten, a protein found in wheat. And other cereal

The key questions to be asked by health provider while taking history of digestive system problem:

- When the complaint started?
- How the onset occurred?
- How has it evolved?
- Ask whether the problem is constant or intermittent?
- Ask whether a similar problem has been experienced in the past?
- Determine the exact location and how it relates to digestion?
- The severity is always important to establish?
- Ask about self - treatment, herbal agents or complementary therapies
- Ask whether anything in particular, aggravating and alleviating factors, and

associated symptoms of the complaint. such as emotions, exposure to outdoor allergens, or fatigue, tends to precipitate or accelerate the complaint?

- Ask about pain: obtaining information as to whether the pain is alleviated or worsened by food
- Determine the exact location any radiation to other sites and how it relates to respirations?
- Also determine whether the symptoms tend to be tied to any particular time of day, such as night, early morning, or immediately following a meal?
- The usual weight, is it normal? How many Kg wasted or gained?

9.8. Answers for end unit assessment

1. Inflammation of the appendix
2. An inflammation of the liver
3. Difficulty swallowing foods or liquids
4. Emission of digested blood (black in color) from the anus
5. 10 commonly presenting complaints of the gastro intestinal system at the hospital:
 - *Imbalanced nutrition, Impaired swallowing, Obesity, Overweigh, Abnormal distention, Pain, Diarrhea, Constipation, Bowel Incontinence, Excess fluid volume, Deficient fluid volume, Risk for infection, Disturbed body image*
6. The setting is always relevant as it provides clues to the possible origin of the disorder. For example, in the patient with complaints of reflux or ulcer disease, obtaining information as to whether the pain is alleviated or worsened by food or diminished when administered acid-suppressive therapy can help guide diagnostic and therapeutic interventions. For instance, ingesting a meal often relieves the pain of duodenal ulcer, but worsens pain due to a gastric ulcer.
7. Informtion-communication-education
8. With age, many bodily functions slow down, including digestive tract — it just might not work as efficiently or as quickly as it used to. The muscles in the digestive tract become stiffer, weaker, and less efficient.
9. Esophageal varices, stomach cancer, gastritis, gastroesophageal reflux disease, pancreatitis, ascites
10. a. Slowing swallowing
11. d. All of the above
12. c. Producing bile

9.9 Additional Activities

9.9.1 Remedial activities

1. List the glandular organs associated to the Digestive system.

Answer:

Salivary gland, gallbladder, pancreas and liver.

2. Explain the meaning of the following terms:
 - 1.1. Endoscopy: Procedure to examine the internal organs
 - 1.2. Dysphagia: Difficulty swallowing
 - 1.3. Tachypnea: abnormally rapid breathing
 - 1.4. Splenomegaly: enlargement of the spleen measured by size or weight
 - 1.5. Hematemesis: Vomiting of blood
 - 1.6. Cholecystectomy: Gallbladder removal surgery
 - 1.7. Colonostomy: an opening into the colon from the outside of the body

9.9.2 Consolidation activities

3. Illustrate the elements of history taking while assessing the digestive system.

The Healthcare provider will:

- Wash the hands
 - Introduce him/herself to the client
 - Have the client's names and date of birth
 - Have the consent and ensures that the client is in a comfortable seat
 - Then ask the presenting complain: problem onset, the setting in which it developed and its presentation
 - Medical history
 - Social and family history
 - current medications
 - End by discussing the patient's ideas, concerns and expectations
4. Enumerate the basic techniques used during physical examination.
 - Inspection
 - Auscultation
 - Percussion
 - Palpation

9.9.3 Extended activities

5. CHIEF COMPLAINT: My eyes are yellow for two days.

HISTORY OF PRESENT ILLNESS: Mrs. S is a 36 years old unemployed woman who presents with yellow discoloration of her eyes which she noticed two days ago while washing her face. At first she thought the color was due to the lighting in her bathroom, but this morning, when going outside, she noticed that her hands “looked yellow.”

Mrs. Salco further admits to feeling “sick and tired” for the past 2 -3 weeks. She has lost her appetite and feels weak. During this time, she has been frequently nauseated and ate very little food. Last night she developed a fever and “shook all over with a chill.” This morning she awoke after a restless night with pain and a sensation of fullness in the right upper abdomen. She also vomited twice. The emesis was non -bloody. She has not had diarrhea. She has no back or shoulder pain. She thinks she lost 7kg during the last 3 months. She has no joint pain or skin rash.

Mrs. Salco is a chronic alcoholic who has been hospitalized on several occasions for alcohol related problems, including a psychiatric admission at Ndera Neuro – psychiatric hospital. Although she was considered as a gifted, young accountant with a bright future. Since graduation from business and Management school she has had many alcohol related work problems and lost her position at a prestigious company three weeks ago. Since that time she has consumed approximately 3 bottles of Red Waragi (alcohol spirits) every day.

The relationship with her husband is not good these days and she is taking Paracetamol regularly to calm her headache. She smokes one pack of cigarettes per day. She is having an affair with a man who uses IV drugs and has history of hepatitis.

Physical examination:

- The patient is alert but haggard looking. She is skinny and shows prominent cheek bones. Her clothing is disheveled and her hair is uncombed. She appears much older than her stated age. Bilateral, deep conjunctival icterus
- Vital signs: Blood pressure in right arm 104/60 mmHg, Heart Rate 110/minute and regular, Respiratory Rate 18/minute, Temperature 38.90 C.

Abdomen: The abdomen is round and slightly tympanitic. The liver is palpable beneath the costal margin (9 cm.) and tender. The liver span is 20 cm. There is no rebound tenderness, shifting dullness or splenomegaly. Normal bowel sounds.

Skin: Icteric

Laboratory data:

Aspartate aminotransferase (AST) 150 U/L

Alanine aminotransferase (ALT) 60 U/L

Total Bilirubin 22 mg/dL

During hospitalization WBC rose to 42,000/mm³; total bilirubin rose to 32 mg/dL

1.1. Elicit the significant clinical problems that Mrs S. has.

Jaundice, loss of appetite, feels weak, nausea, fever, insomnia, pain in the right upper quadrant of the abdomen, vomiting, weight loss, headache.

1.2. Recommend the possible differential diagnosis for Mrs S.

Viral Hepatitis, malaria, diabetes, drug abuse, depression.

10.1 Key unit competence

Take appropriate action based on findings of nursing assessment of genito-urinary system

10.2. Prerequisite (knowledge, skills, attitudes and values)

To appropriately develop knowledge and skills to assess of Genitourinary system, the learner should had been learn anatomy and physiology, vital signs and parameters, nosocomial infection and prevention and first aids. At the end of this unit, the student will be able to conduct history taking, physical examination, interpretation of findings, identification of patient problem and nursing intervention related to genito-urinary system. The teacher will ask the students what they can do if a patient is coming for consultation with painful urination.

Possible answers:

- Ask the detailed history of the occurrence of the presenting complains
- Make physical examination of the abdomen (for kidneys and bladder) and external genitalia
- Take urine sample to identify the cause of dysuria
- Provide medication (non-steroid anti-inflammatory medication and antibiotics) in accordance to the medical diagnostic.
- Give health education related to the cause of the problem.

10.3. Cross cutting issues to be addressed

Predominant cross cutting issues to be addressed in the unit of Genitourinary assessment are mainly inclusive education, critical thinking as well as peace and value education.

a. Inclusive education

This unit will be done mostly via debates presentation within groups. The teacher will encourage students to verbalize what they know and what they think should be important while searching patient's problem. It can be an issue to students with hearing impairment to progress with others or students with limbs disorders who usually face challenges for displacement.

- The teacher will encourage all students to support colleagues with locomotor impairment to reach their groups
- Both teacher and students will be encouraged to speak loudly and use gestures to support learners with hearing problems.
- Gynaecological tables for physical assessment of the external genitalia must be manageable to allow students with locomotor disability to reach the simulated patient.

b. Peace and value education

This unit will involve student- teacher and student-student respectful interaction. Students will be encouraged to accommodate different ideas, to exchange speeches and to develop flexibility in order to focus on the important points of the lesson.

c. Gender

Inspire active participation of boys and girls in activities. Make sure that all learners are actively involved in all learning activities. All the students need to be knowledgeable and skilled enough to care for male or female patients with genitourinary system.

d. Environment and sustainability

As a facilitator, emphasize to the learners that environment must be sustainably protected and kept safe. Medical waste may cause very serious injury and be a source of infectious contamination, this is why health providers including associate nurses have to be responsible for appropriate waste disposal.

10.4. Guidance for the introductory activity

Most of the time if a person is having problem on the genitourinary system, he or she goes to the health centre or hospital for consultation and get medications. The images of the introductory activity show female with pain on urination, a health professional doing palpation on patient's abdomen, a health profession interpreting the results of urine dipstick, lastly a male with urinary catheter inserted. The teacher will not expect the right answers from the very beginning, instead it is a matter of awaken their curiosity and open their mind for this upcoming unit.

Teacher's responsibility during introductory activity:

- The teacher will ask the students to open their books on unit 10, ask them to attempt the introductory activity of the unit. pair students in groups of 4 to 5 students to read together and answer related questions.
- After every question's discussion, they will write their answers
- Randomly, the teacher will choose 4 groups to present while others are listening, give details and clarifications as well as ask questions
- The teacher keeps the class focused on the purpose of the unit and put appropriate supplementary information

Possible answers for the introductory activity 10.0

- What do images above means to you? The images of the introductory activity represent a female with dysuria, abdominal palpation, urine dipstick interpretation and a male with urinary catheter inserted.
- Guess the lesson we are going to study. The lesson to study according to the introductory activity is the nursing assessment of genitourinary system.
- List the anatomical parts illustrated on image B and D. The image B shows kidney, ureter, distended bladder (the bigger circle) and empty bladder (the smaller circle)

10.5. List of lessons / sub-heading (including assessment)

No	Lesson title	Learning objectives	Number of periods
1	Specific history taking on Urogenital system	<ul style="list-style-type: none">Outline relevant questions to assess Urogenital systemCollect relevant information specific to Urogenital systemAppreciate the relevant information on Urogenital system	2
2	Specific physical examination of Urogenital system	<p>Describe different techniques of physical examination applied to Urogenital system</p> <p>Use different techniques to conduct client physical exam on Urogenital system.</p>	2
3	Interpretation of specific findings on Urogenital system.	Analyze data collected from the client health assessment	2
4	Identification of client problems	Identify patient problems related to genitourinary system	1
5	Nursing intervention based on patient's problem.	Prescribe interventions to manage genitourinary conditions	2
6	End unit assessment	Assess student understanding of the genito-urinary system assessment	1

LESSON 1: Specific history taking of the genitourinary system

a. Learning objectives

- Outline relevant questions to assess Urogenital system
- Collect relevant information specific to Urogenital system
- Appreciate the relevant information on Urogenital system

b. Teaching resources

Forbes, H., & Watt, E. (2015). *Jarvis's physical examination and health assessment*. Elsevier Health Sciences.

The teacher will ask the students on the anatomy and physiology of urinary and reproductive system in both male and female. The students will verbalize different anatomical parts of the above systems and related physiological responsibilities.

c. Activity 10.1

Guidance

Teacher will request students to sit in group of 4 and read together the learning activity of the unit 10. He or she will ask the students to predict the scenario on the image related to the questions, discuss and answer the questions. Everyone write the answers of the questions. Two group presentations selected randomly, the remaining will give their comments and additions. All students will be allowed to ask questions and get feedback from their teacher.

Answers to the activity 10.1

- On the image A, a nurse is taking the history of the patient and document relevant information.
- That man is having pain on the genitals especially during urination

Answers for self-assessment and application activity 10.1

- Ask this patient 5 additional questions to ruler out complete subjective information?
 - Do you have difficult starting urine stream?
 - What is the color, smell and consistency of the urine?
 - Do you have difficulty controlling urine?
 - Do you have any problem on the scrotum or testicles?
 - Did you have any problem with genitourinary system in the past?
 - What medical condition will you think first to fit the patient's complaints?

Answers

Depending on patient's complains, he may be suffering from sexually transmitted infections.

2. What is your conclusion as an associate nurse after getting the above information from your patient

Answers

The associate nurse will conclude that the genitourinary system normal and healthy.

LESSON 2. Physical assessment of genitourinary system

a. Learning objectives

- Describe different techniques of physical examination applied to Urogenital system
- Use different techniques to conduct client physical exam on Urogenital system.

b. Teaching resources

1. Forbes, H., & Watt, E. (2015). *Jarvis's physical examination and health assessment*. Elsevier Health Sciences.
2. Berman, A., Snyder, S. J., Kozier, B., Erb, G., Levett-Jones, T., Dwyer, T., & Stanley, D. (2010). *Kozier and Erb's fundamentals of nursing* (Vol. 1). Pearson Australia.
3. Hogan-Quigley, B., & Palm, M. L. (2021). *Bates' nursing guide to physical examination and history taking*. Lippincott Williams & Wilkins.

c. Prerequisites /Revision / Introduction

The students will review the anatomy and physiology of the genitourinary before starting with the assessment. This process will integrate and awaken students in the upcoming topic of the history taking and physical examination of the reproductive and urinary systems.

d. Activity 10.2

Guidance

- Ask the students to sit in groups of 4 to reflect and discussion questions related to the images.
- The teacher will brainstorm answers from each group and orient their ideas toward physical assessment of the genitourinary system.
- One group will present the answer of first question while other groups put addition and comments and so on
- At the end the teacher will sum up student answers and then give more clarification on the physical assessment of genitourinary
- All students will be allowed to ask questions and get feedback from their teacher

Answers to the activity 10.2

- a. The image A represents the healthy external genitalia of a female
- b. Gloved hands are doing palpation of the testicles
- c. The image C show abnormal urinary meatus opening up(epispadias) and down (hypospadias). Genital warts of the penis on the image D, redness of the external female genitalia, whitish creamy like substance at the upper end of the labia minora (vulvo-vaginal candidiasis). On the image F there is a localized redness due to contact of an object such as diaper (contact dermatitis).
- d. The anatomical parts illustrated on images A and B are labia majora, labia minora, penis, scrotum, testicles, pubic hair and pubic region.

Answers for self-assessment activity activities 10.2

1. a. The examiner will report that the patient is having urethral discharge
 - b. After the history taking and physical assessment, the associate nurse with take urine sample for examination, prescribe medication as per identified cause, and give related health education such as prevention of UTIs or STIs.
2. The woman is having vaginal candidiasis or candida albicans vaginitis
3. a. I will advise that young lady to use barrier method. e.g: condom
 - b. The external genitalia of this girl is apparently healthy
 - c. Prevention of STIs and birth control measures

LESSON 3. Interpretation of specific findings of the genitourinary system

a. Learning objectives

Analyze data collected from the client health assessment

b. Teaching resources

1. Goolsby, M. J., & Grubbs, L. (2018). Advanced assessment interpreting findings and formulating differential diagnoses. FA Davis.
2. Hogan-Quigley, B., & Palm, M. L. (2021). Bates' nursing guide to physical examination and history taking. Lippincott Williams & Wilkins.

c. Prerequisites/Revision/Introduction

Students will learn to attach the meaning to the abnormal finding heard, observed and felt during history taking and physical examination of the genitourinary system.

d. Learning activity 10.3

Guidance

- The teacher will ask the students to individually read the scenario and answer the questions
- After each presentation they create an open discussion for questions, comments and teacher's clarification will be added.
- After that the teacher will go through the content of the interpretation of the special finding of the genitourinary system.

Answers for activity 10.3

- a. Normally, we should not have blood in the urine. Hematuria is an indication of UTIs, or cancer of the bladder.
- b. Dysuria means pain during urination

Self-assessment activity 10.3

Guidance

Ask student to work individually on piece of paper to answer the questions of self-assessment activity 10.3

Answers for application activities and self-assessment

By inspection vulvo vaginal candidiasis is indicated by thick, white, curdlike discharge that appears in patches on the cervix and vaginal walls whereas contact dermatitis is identified as redness and itching on the area in contact a substance causing allergy

1. The genital warts are due to human papilloma virus
2. Paraphimosis is said when the foreskin or prepuce can't be pulled back to the tip of the penis. The foreskin becomes very compressive and develop inflammation that inhibit blood circulation and severe pain.
3. The presence of leukocyte esterase in the urine indicate the presence of UTI

LESSON 4. Identification of client problems

a. Learning objectives

Identify patient problems related to genitourinary system

b. Teaching resources

- Goolsby, M. J., & Grubbs, L. (2018). Advanced assessment interpreting findings and formulating differential diagnoses. FA Davis.
- Forbes, H., & Watt, E. (2015). Jarvis's physical examination and health assessment. Elsevier Health Sciences.

- Berman, A., Snyder, S. J., Koziar, B., Erb, G., Levett-Jones, T., Dwyer, T., & Stanley, D. (2010). Koziar and Erb's fundamentals of nursing (Vol. 1). Pearson Australia.

c. Prerequisites /Revision / Introduction

The students speak out their basic knowledge on the conditions affecting genitourinary system. These conditions and symptoms common on genitourinary system are UTIs, cervical cancer, STIs, testicular cancer, genital warts, vaginitis, dysmenorrhea, lower abdominal pain,

d. Learning activity 10.4

Guidance

- Teacher will ask the students to go on the learning activity 4 of the unit 10.
- Ask the students to sit in groups of 2 to observe the images and discuss on the related questions.
- After 5 minutes, the teacher will randomly ask some students to answer
- Allow class discussion after every question and respond properly, teacher will help them to clarify the answers.
- Summarize and conclude the lesson.
- After the response to the introductory activity, the teacher will guide a teaching session using a power point presentation on the identification of patient's problem based on genitourinary system.

e. Answers to activity 10.4

- a. After the assessment of patient's abdomen, the nurse identified uterine fibrosis as the reason behind patient's signs and symptoms.
- b. The anatomical parts of female reproductive here illustrated are: uterus, cervix, fallopian tubes and ovaries.

f. Self-assessment and application activity 10.4

Guidance

The self-assessment and application activity 10.4 will be done individually as a formative assessment.

Answers for self-assessment and application activity

1. The testicular torsion is a surgical emergency because its delayed management will lead to ischemia and complete cell death due to lack of blood circulation in few hours.

2. a. Pediculosis pubis
 - b. Preventive measures for pediculosis pubic is based on hygienic improvement, use personal items and avoid sexual contact with infected person.
3. B. Suprapubic region
4. A, B and D

LESSON 5. Nursing interventions based on patients' problem

a. Learning objectives

- Prescribe interventions to manage genitourinary conditions

b. Teaching resources

- Berman, A., Snyder, S. J., Kozier, B., Erb, G., Levett-Jones, T., Dwyer, T., & Stanley, D. (2010). Kozier and Erb's fundamentals of nursing (Vol. 1). Pearson Australia.
- Manikins specific with female and male genitalia, gloves, urinary catheters, and others as needed

c. Pre requisites/Revision/Introduction

To facilitate better this lesson, students must have basic knowledge and skills in anatomy and physiology of genitourinary system, identify problems and interpret the findings.

d. Learning activity 10.5

Guidance

- Teacher will request students to open books precisely reach to the learning activity 10.5
- Ask the students to discuss in pair and suggest what the images stand for.
- After 5 minutes, the teacher will ask volunteers to speak loudly the answers of the questions
- While student presentation and discussion, every student will take note
- The teacher will give more details on nursing interventions related to genitourinary system.

Answers for activity 10.5

- a. The image A shows a nurse assisting a patient to drink water, image B is showing a patient on a bed pan, the image C and D show a female and a male manikin with urinary catheter inserted.
- b. It is important to drink water to keep the urinary tract rinsed in order to minimize risks of urinary tract infections and formation of renal stones.

e. Self-assessment and application activity 10.5.

Guidance

Teacher will ask student to work in pairs to answer the questions of self-assessment activity 9.5

Answers for self-assessment 10.5

1. Priority health education topics to a boy doing unprotected sex with girls of his age are on prevention of sexual transmitted infections and birth control measures.
2. The nursing interventions related GU may be drinking water, bed pan, urine sampling collection, insertion of urinary catheter, medication administration and emptying urinary bag.
3. Drinking enough water per a day help rinsing urinary tract so that infections and crystals which delay in that system are continuously flushed out to prevent kidney stones.
4. Urinary catheterization is indicated if in case of total immobilization after surgery or trauma, before major surgery, to monitor urine output, urinary retention or obstruction, urinary incontinence.

10.6. Summary of the unit

Nursing assessment of genitourinary system allows the student to decide his or her focus depending on patient's chief complaints. It clearly mentions the interview questions to guide history taking session and physical examination technique to identify deviation from normal anatomy and physiology. The student will be able to attach meaning to the pathological data from both history taking and physical assessment to identify the patient's problem and decide appropriate nursing management.

10.7. Additional Information for Teacher

1. History taking

The general history for a patient who presents with genitourinary complaints should begin with questions regarding a previous history of any similar complaints. A sexual history is appropriate, including recent changes in partners and an assessment of general sexual habits. The history should include a discussion of any recent (within the last 6 months) systemic illness; recent weight gain or loss; smoking, alcohol consumption, and illegal drug use. A general history of the GU tract must also include a list of current prescription and over the-counter and traditional medications. Get to know what remedies have been tried prior to

presentation. The GU-related past medical and surgical history should include any surgeries to the GU tract or reproductive structures, prostate surgery, bladder reconstructions and others. For adult female, obstetric history is necessary such as number of pregnancies, deliveries, mode of those deliveries. Family history is important because it can help establish a patient's risk for various GU conditions. Sexual history should include activity from adolescence through adulthood and should include the patient's sexual orientation. The number of current and lifetime sexual partners should be discussed along with any history of sexually transmitted diseases (STDs) and the treatment received. A history of intravenous drug use and the date and results of the patient's last HIV test should also be noted. Questions regarding safe sex and condom use and specifics about sexual practices are also relevant. The patient's preferred method of birth control should be noted. Questions regarding erectile dysfunction, premature ejaculation, change in libido, pelvic pain, pain during sexual activities all give insight towards presenting condition. Then any presenting sign, the examiner will get to know its intensity, duration, irradiation, alleviating and aggravating factors.

2. Physical examination

The physical assessment of the GU system starts by inspection of the abdomen. Observe for flanks and supra-pubic regions for fullness, color change to note possible kidney and bladder abnormalities. The second step is percussion of costo-vertebral angle which cause tenderness in case of kidney inflammation. The third step is to palpate the kidney which is normally not palpable. Feeling masses in flanks require further investigations such as abdominal ultrasound to identify affected organ and limit confusion as those areas lodge a list of other abdominal organs such as spleen and liver.

To palpate of the left kidney, the examiner will move to the patient's left side. Then, place his right hand behind the patient, just below and parallel to the 12th rib, with fingers reaching the costovertebral angle. Lift, by trying to displace the kidney anteriorly.

Place the left hand gently in the left upper quadrant, lateral and parallel to the rectus muscle. Ask the patient to take a deep breath. At the peak of inspiration, press your left hand firmly and deeply into the left upper quadrant, just below the costal margin, and try to capture the kidney between your two hands. Ask the patient to breathe out and then to stop breathing briefly. Slowly release the pressure of your left hand, feeling at the same time for the kidney to slide back into its expiratory position. If the kidney is palpable, describe its size, contour, and any tenderness. The examiner will go on the patient's right side to palpate the right kidney and follow the same process as for the left kidney. Compared to the left kidney, the right one can be palpable in thin relaxed female.



Palpation of the right kidney



Percussion of left kidney

3. Special consideration across lifespan

Recent evidence suggests male circumcision as it reduces urinary tract infections. They also recommend circumcision because there is an association between male circumcision and reduced risk of acquiring HIV through vaginal intercourse. The examiners should be familiar with physiological changes that happen throughout all stages of life especially with puberty. At that period, testicles growth begins and scrotal skin thins and becomes pendulous. Testes become active and begin to secrete testosterone, which promotes bone maturation and epiphyseal closure. Genital hair appears at the base of the penis, darkens, and extends over the entire pubic area; at this time, the prostate gland enlarges. When maturation is complete, genital hair is curly, dense, and coarse, with a diamond shape from umbilicus to anus. Growth and development of the scrotum and testes are complete and the length and width of the penis are increased. With age, older male may have gray pubic hair, smaller and softer testes. The scrotal sac has less ruggae and appears to droop. Rectal tone is intact, but strength of the rectal reflex may be reduced slightly. Testosterone levels decline with aging, which may affect both libido and sexual function. Erection becomes more dependent on tactile stimulation and less responsive to erotic cues and the penis may decrease in size.

In female, newborn may manifest pinkish discharge at the opening of the vagina due to the effect of maternal estrogen. In the female child the genitalia continue growing, except for the clitoris. Ambiguous genitalia is a congenital anomaly found in some newborns which need referral for diagnostic confirmation. Female children may seem to complicate physical assessment of GU as most of the time they have been taught that no one is allowed to touch their genitals. The parent or the guardian will assure the child and assist the examiner to take appropriate position. Age of onset of puberty in girls has continued to decline. Budding of the breast occurs first, followed by pubic hair, and finally onset of menses. Genital assessment of the adolescent is not required unless there has been initiation of sexual activity or there are genital tract problems. The opportunity for nurse education is greatest as the adolescent is experiencing body changes, self-identity exploration, and relationship

questions. Establishment of a trusting and confidential nurse–patient relationship is vital. Sexually active adolescent females should have an annual examination. Older women experience many changes in the genitourinary tract related to limited or absent estrogen in the system. Menopause is 12 consecutive months without menses and usually occurs between 48 and 51 years. As estrogen levels decrease the uterus becomes smaller, the ovaries shrink, the normal vaginal rugae flatten, and the epithelium atrophies. These normal changes may lead to problems such as vaginal infections, urinary tract infections, dyspareunia, and lowered libido. Older women are at increased risk for endometrial cancers and need education regarding abnormal signs and symptoms.

Learning resource:

Jensen, S. (2010). Pocket Guide for Nursing Health Assessment: A Best Practice Approach. Lippincott Williams & Wilkins.

10.8. Answers of end unit assessment

1. Nursing interventions to GU system are health education on water intake, bed pan, urinary catheterization insertion, urine sampling and administer medication to treat GU problems.
2. Urination abnormalities include: frequency, hesitancy, urgency, incontinence, obstruction, enuresis and hematuria. Consider the student book for their description.
3. 10 clinical condition of the GU are (list is not exhaustive): urinary tract infection, vaginitis, cervical cancer, sexual transmitted infections (sphilis, gonorrhea, chlamydia and HIV), enlarged prostate, uterine fibrosis, phimosis, paraphimosis, epispadias, hypospadias, kidney stones, endometriosis.
4. A-4, B-1, C-6, D-5, E-2, F-3.

10.9. Additional Activity

10.9.1. Remedial activities

1. List 10 signs and symptoms which can be considered as chief complaints during an history taking of a patient with GU problem

Answers

Patient's chief complaints can be dysuria, frequency, hesitancy, nocturia, enuresis, incontinence, dysmenorrhea, decreased sexual desire and decreased libido, lower abdominal pain, back pain, genital overgrowth, genital ulcerations.

2. Ask 5 questions a 25 year married woman complaining of suprapubic pain and dysuria.

Answers

- How long does the dysuria last?
- What are the other associated problems?
- Which date is your last menstrual period?

- Is you or your husband involved in sexual activities with other persons?
 - Are you using family planning methods?
3. Give to reasons behind drinking water for the well being of GU system.

Answers

- We drink water to rinse the kidney, ureters, bladder and urethra in order to prevent stagnation of substance that make stones in the urinary system
 - We drink water to clear away microorganisms causing urinary tract infections
 - We drink water to prevent dehydration
4. List possible abnormalities we can find on the female external genitalia

Answers

Bartolin abscess, genital wart, syphilitic chancre, chancroids, vaginitis, vulvo vaginal tumors, urinary tract infection, sexually transmitted infections.

5. List possible abnormalities we can find on male's external genitalia

Answers

Urinary tract infection, sexually transmitted infection, phimosis, paraphimosis, epispasdias, hypospadias, genital wart, syphilitic chancre, chancroid, testicular tumors, testicular torsion, hydrocele, prostate enlargement.

10.9.2. Consolidation activities

1. Name an instrument used to assess the health status of the cervix.

Answers

They use speculum to assess the cervix

2. A 56 male is presenting cauliflower growth on his perineum and on the penis.
- a. Give the diagnostic for this patient.

Answers

The diagnostic is genital wart

- b. What is the know cause for genital warts

Answers

Genital warts is caused by human papilloma virus

3. Give signs and symptoms for testicular torsion

Answers

Testicular torsion is indicated by abrupt severe scrotum pain, testicle with unusual angle, swelling of the scrotum, abdominal pain and frequent urination.

4. Differentiate endometriosis to uterine fibrosis

Answers

Endometriosis is a female reproductive problem where tissues of the uterus are found in other parts such as in the fallopian tubes and ovaries. The condition is characterized by severe pain during menstruation, bleeding between periods, and can be a cause for female infertility.

Uterine fibrosis or myomas is benign uterine overgrowth during female reproductive age. It is characterized by heavy menstruation period exceeding 7 days, pelvic pain, frequency, difficult emptying bladder, back and leg pain.

10.9.3. Extended activities

1. List and describe 10 female GU conditions

Answers

A list of GU 10 female GU condition may include: UTIs, STIs, vaginitis, Bartholin abscess, genital wart, syphilitic chancre, chancroids, vulvo-vaginal tumors, endometriosis, uterine prolapse.

2. List and describe 10 male GU conditions

Answers

Urinary tract infection, sexually transmitted infection, phimosis, paraphimosis, epispadias, hypospadias, genital wart, syphilitic chancre, chancroid, testicular tumors, testicular torsion, hydrocele, prostate enlargement.

3. In which GU conditions are supposed to take urine sample?

Answers

Urine sample is taken when a patient is complaining of lower abdominal pain, back pain, urinary frequency, dysuria, hematuria and other related signs.

4. What are the physiological changes of the reproductive system in both male and female?

Answers

At puberty, male recognize testicles growth and scrotal skin thins and becomes pendulous. Testes become active and begin to secrete testosterone, which promotes bone maturation and epiphyseal closure. Genital hair appears at the base of the penis, darkens, and extends over the entire pubic area; at this time, the prostate gland enlarges. When maturation is complete, genital hair is curly, dense, and coarse, with a diamond shape from umbilicus to anus. Growth and development of the scrotum and testes are complete and the length and width of the penis are increased.

Female puberty is characterized by growing of the breast occurs first, followed by pubic hair, growth peak and then the onset of menses. The next step will be the growth of under arm hair, body shape change toward adult size.

5. Discuss the effect of aging on both male and female reproductive system

Answers

Older women experience many changes in the genitourinary tract related to limited or absent estrogen in the system. Menopause is 12 consecutive months without menses and usually occurs between 48 and 51 years. As estrogen levels decrease the uterus becomes smaller, the ovaries shrink, the normal vaginal rugae flatten, and the epithelium atrophies. These normal changes may lead to problems such as vaginal infections, urinary tract infections, dyspareunia, and lowered libido. Older women are at increased risk for endometrial cancers and need education regarding abnormal signs and symptoms.

With age, older male may have gray pubic hair, smaller and softer testes. The scrotal sac has less ruggae and appears to droop. Rectal tone is intact, but strength of the rectal reflex may be reduced slightly. Testosterone levels decline with aging, which may affect both libido and sexual function. Erection becomes more dependent on tactile stimulation and less responsive to erotic cues and the penis may decrease in size.

11.1. Key Unit Competence

Relate society, family, and special group to health and illness

11. 2. Prerequisites

Students will learn better the content of this unit “Sociology of health and illness” if they have a good understanding of:

- Psychology and personality: the students should be able to recall concepts of psychology and personality and how they relate to health.
- Sociology of health and illness: To better understand this course students, should also be able to recall and relate concepts of sociology of health and illness.

11.3. Cross cutting issues to be addressed

Throughout teaching this unit you should relate the content being taught with the following cross-cutting issues:

a. Environment and sustainability

As the teacher, inform the students that the environment must be sustained at all cost to preserve life. Teach them that the environment is part of human life and that the holistic approach of life does not omit good environment as it contributes to good life and to illness prevention

b. Inclusive education

All students should be involved in all activities without any kind of discrimination. Students with disability should participate and be assisted as well.

c. Gender education

All of them boys and girls should be involved in all activities.

d. Peace and values education

During group activities, debates and presentations, the teacher will encourage students to help each other and to respect opinions of their colleagues.

11.4. Guidance on the introductory activity

This introductory activity will engage learners into the thinking of connection between family, society and healthy and invite the learners to follow the next lessons.

Teacher's activity:

- Put learners into small groups of 5 students and ask them to observe the images and discuss the given questions
- Provide guidance to each group during their discussion
- Request each group to have one member who will presents their findings
- Note that students may not be able to provide the right answers, encourage them to think more.

Expected answers to the introductory activity

1. Image A; displays people who makes the society and shows that these peoples should have access to health care services.
2. Image B means that in the society people are connected. They are connected by being relatives in the same family, connected by love in marriages, connected by attending the same school, by sharing health facility services and church services etc.

11.5. List of lessons/subheadings

No.	Lesson title	Learning objectives	Number of periods
1	Definition of society and family	Define society Define family	1 periods
2	Family structure	Explain the structure of family Discuss the types of families	1 period
3	Special group in the society	Explain different types of special groups Discuss how special groups are cared in the society	1 period
4	Social distribution of diseases	Outline diseases that are prevalent in poor, middle and rich families	1 period
5	Implication of society in healthcare	Discuss the implication of the society in healthcare	1 period
6	Approach to family nursing	Discuss the approaches to family Nursing	2 periods

7	Theories related to family nursing	Explain the theories related to family nursing	2 periods
8	Role of family in health promotion and disease prevention	Identify and discuss the role of family in health promotion and diseases prevention	2 periods
9	End unit assessment	Acknowledge the role of society, family, and special group in health promotion and diseases prevention	1 periods

LESSON 1. Definition of society and family

a. Learning objectives

- Define society
- Define family

b. Teaching resources

- Student text book of fundamentals of nursing, senior 4,
- Community health nursing and public health text books available in the library or online
- Personal computer, and projector
- Flipchart or writing board

c. Introduction

In this lesson students will learn the definition of society and family

d. Learning activities 11.1.

Guidance

- Instruct each student to do activity 11.1 in student's book.
- Move around in silence to monitor if they are observing and brainstorming on the image.
- Find out if they have any problem and help to address it.
- Assist those who are weak but without giving them answers.
- Invite five students to present their findings.
- Ask other students to follow carefully the presentations.
- Make sure that all students give their ideas about the activity.
- Note on chalk board / Manila paper the student's ideas.
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete.
- Make sure that all students give their ideas about the activity.
- Then provide the lesson content

Answer to learning activity 11.1.

- a. Society is a group of people that are living in the same area sharing norms and values
- b. Family is a group of people living in the same house sharing almost everything in the house. A group of families living in the same condition, sharing some social services form a society.

Answers to self-assessment 11.1

1. b
2. c
3. b
4. C

LESSON 2. Family structure

a. Learning objectives

- Explain the structure of family
- Discuss the types of families

b. Teaching resources

- Student text book of Fundamentals of Nursing, senior 4,
- Community health nursing and public health text books available in the library or online
- Personal computer, and projector
- Flipchart or writing board

c. Introduction

In this lesson students will learn the structure of family and discuss the types of families

d. Learning activities 11.2.

Guidance

- Put learners into small groups of 4 students and ask them to observe the image and discuss the given question
- Provide guidance to each group during their discussion
- Request each group to have one member who will presents their findings
- Note that students may not be able to provide the right answers, encourage them to think more.

Answer to learning activity 11.2.

The image shows a type of family in the society composed by a father, a mother and two children; a boy and a girl. This family may be a nuclear family or a stepfamily.

Answers to self-assessment 11.2

1. In comparing the nuclear family and stepfamily, these families seem to be the same because both of them consist of a father, a mother and children living in the same house, sharing almost everything at home
2. In contrasting:
 - a. Nuclear family is the traditional type of family structure. This family type consists of two parents and children but stepfamily is the step or blended family which involves two separate families merging into one new unit. It consists of a new husband, wife, or spouse and their children from previous marriages or relationships.
 - b. Children in nuclear families receive strength and stability from the two-parent structure and generally have more opportunities due to the financial ease of two adults while stepfamilies tend to have unique challenges, such as adjustment periods and discipline issues. Stepfamilies need to learn to work together and also work with their exes to ensure these family units run smoothly.

LESSON 3. Special group in the society

a. Learning objectives

- Explain different types of special groups
- Discuss how special groups are cared in the society

b. Teaching resources

- Student text book of fundamentals of nursing, senior 4,
- Community health nursing and public health text books available in the library or online
- Personal computer, and projector
- Flipchart or writing board

c. Introduction

In this lesson students will learn different types of special groups and how they are cared in the society.

d. Learning activity 11.3.

Guidance

- Individually observe the image and discuss the given question in the student book
- Provide guidance to each student during their discussion
- Choose randomly 2 or 3 students to present their findings in order to share with others
- Note that students may not be able to provide the right answers, encourage them to think more.

Answer to learning activity 11.3

Image A shows a group of disabled people that live in the society. One is a crippled man walking on scratches, second is also a crippled woman walking in a wheelchair and the third one is a blind woman walking with a stick.

Image B displays another type of people that we have in the society. This person stands for prisoners.

Answers to self-assessment 11.3

1. Sexual orientation and mental disorder are different. Being lesbian or gay are related to sexual orientation. It has been hypothesized that gay men may have been exposed to little testosterone in key regions of the brain, or had different levels of receptivity to its masculinizing effects, or experienced fluctuations at critical times; on another hand, Lesbians on average, have significantly more masculine digit ratios, a finding which has been replicated numerous times in studies cross-culturally. To conclude, being lesbian or gay is not a mental disorder.
2. Elderly people are likely to experience several conditions including hearing loss, cataracts and refractive errors, back and neck pain and osteoarthritis, chronic obstructive pulmonary disease, diabetes, depression and dementia.

LESSON 4. Social distribution of diseases

a. Learning objectives

- Define social epidemiology
- Outline diseases that are prevalent in children, pregnant women and elderly people in Rwandan society

b. Teaching resources

- Student text book of fundamentals of nursing, senior 4,
- Community health nursing and public health text books available in the library or online
- Personal computer, and projector
- Flipchart or writing board

c. Introduction

In this lesson students will learn some diseases that are prevalent in children, pregnant and elderly people in Rwandan society.

d. Learning activity 11.4.

Guidance

- In groups of 3 to 4 students provide the images and instruct them to observe the images and discuss the given questions in the student book
- Provide guidance to each group during their discussion
- Every group will have a representative to present their findings in order to share with others
- Note that students may not be able to provide the right answers, encourage them to think more.

Answers to learning activity 11.4

Image A shows a hand with a disease being in contact with other hands. This means that in the family, community and society one sick person can distribute a disease to the whole people that he/she may be in contact.

Image B shows how the distribution or transmission of a disease can happen among family members (intrafamilial transmission); how a mother can transmit diseases to unborn baby (perinatal transmission); how children at school can distribute a disease among themselves; and this image shows how a disease can be distributed among community members.

Answers to self-assessment 11.4

1. a
2. b
3. c

LESSON 5: Implication of society in healthcare

a. Learning objectives

At the end of the lesson, students will be able to discuss the implication of the society in healthcare

b. Learning resources

- Student text book of fundamentals of nursing, senior 4,
- Community health nursing and public health text books available in the library or online

- Personal computer, and projector
- Flipchart or writing board

c. Introduction

In this lesson, students will learn the implication of society in healthcare.

d. Activity 11.5

Guidance

To better teach this lesson, the teacher should use group teaching and learning method with brain storming as follows:

- Share the learning objectives of the lesson 11.5 to the learners
- Put learners into small groups of 5 students and ask them to observe the images and discuss the given questions
- Provide guidance to each group during their discussion
- Request each group to have one member who will presents their findings
- Appoint like 2 groups to present their findings and ask other to complement their colleagues.
- Build on their responses and deliver the course.

Answers to the learning activity 11.5

- Image A show people of the same society participating in a sport activity. Regular exercise improves respiratory, cardiovascular health, and overall health. Staying active can also help people maintain a healthy weight, reduce risk for type 2 diabetes, heart disease etc.
- Image B show people having cleaning equipment. if the society participate in cleaning their environments most of the communicable diseases may be prevented.

Answer to self-assessment 11.5

1. Lifestyle related behavior which contribute to global burden of disease include:
 - Unsafe sex,
 - Tobacco use,
 - Alcohol use,
 - Obesity.
2. Umuganda, paying health insurances, participating in group sports activities

LESSON 6: Approach to family nursing

a. Learning objectives

At the end of the lesson, students will be able to discuss the approaches to family Nursing

b. Learning resources

- student text book of Fundamentals of Nursing, senior 4,
- Community health nursing and public health text books available in the library or online
- Personal computer, and projector
- Flipchart or writing board

c. Introduction

In this lesson, students will learn the approach to family health nursing.

d. Activity 11.6

Guidance

To better teach this lesson, the teacher should use group teaching and learning method with brain storming as follows:

- Share the learning objectives of the lesson 11.6 to the learners
- Put learners into small groups of 5 students and ask them to observe the images and discuss the given questions
- Provide guidance to each group during their discussion
- Request each group to have one member who will presents their findings
- Appoint like 2 groups to present their findings and ask other to complement their colleagues.
- Build on their responses and deliver the course.

Answers to the learning activity 11.6

1. The image of the learning activity 11.6 describe the approach to family nursing care called family as a context of care. It is an approach that focuses on care of an individual client in which the family is the context. Although the nurse focuses the nursing process on the individual's health status, the nurse also assesses the extent to which the family provides the individual's basic needs.
2. Family nursing is a nursing specialty concerned with understanding people's experiences of health and illness within the context of their family.

Answer to self-assessment 11.6

1=C, 2=B, 3=A

LESSON 7: Theories related to family nursing

a. Learning objectives

At the end of the lesson, students will be able to explain some theories related to family health nursing.

b. Learning resources

- Student text book of fundamentals of nursing, senior 4,
- Community health nursing and public health text books available in the library or online
- Personal computer, and projector
- Flipchart or writing board

c. Introduction

In this lesson, students will learn theories related to family health nursing.

d. Activity 11.7

Guidance

To better teach this lesson, the teacher should use group teaching and learning method with brain storming as follows:

- Share the learning objectives of the lesson 11.7 to the learners
- Put learners into small groups of 5 students and ask them to observe the images and discuss the given questions
- Provide guidance to each group during their discussion
- Request each group to have one member who will presents their findings
- Appoint like 2 groups to present their findings and ask other to complement their colleagues.
- Build on their responses and deliver the course.

Answers to the learning activity 11.7

The image of the learning activity 11.7 describe the general systems theory; a universal theory applicable to many fields of study including family health nursing. The theory provides a way of examining interrelationship and deriving principles.

a system in our context referred to society is a set consisting of integrated, interesting parts or components that function as a whole. Each part is necessary to make a complete and meaningful whole.

Applying it to our context a society is made by families that works to achieve a common goal of the society. And each family has family members who are connected as well to ensure the wellness of the family as a whole.

Answer to self-assessment 11.7

1=C, 2=B, 3= C, 4= B, 5= Attachment theory

LESSON 8: Role of family in health promotion and disease prevention

a. Learning objectives

At the end of the lesson, students will be able identify and discuss the role of family in health promotion and diseases prevention.

b. Learning resources

- student text book of fundamentals of nursing, senior 4,
- Community health nursing and public health text books available in the library or online
- Personal computer, and projector
- Flipchart or writing board

c. Introduction

In this lesson, students will learn theories related to family health nursing.

d. Activity 11.8

Guidance

To better teach this lesson, the teacher should use group teaching and learning method with brain storming as follows:

- Share the learning objectives of the lesson 11.8 to the learners
- Put learners into small groups of 5 students and ask them to observe the images and discuss the given questions
- Provide guidance to each group during their discussion
- Request each group to have one member who will presents their findings
- Appoint like 2 groups to present their findings and ask other to complement their colleagues.
- Build on their responses and deliver the course.

Answers to the learning activity 11.7

Image A of the learning activity 11.7 show a family composed by a husband with his wife attending a health facility together with their children. In relation to health promotion, may be this family was going to vaccinate their children or attending to their family nurse looking for health care advice together.

Image B show a family participating in a sport activity. According to different reports, sport contribute to good health, strengthen immunity and contribute to disease prevention.

Answer to self-assessment 11.8

Families provide the support and conditions needed for healthy living, prevention of disease and opportunities for early diagnosis and treatment to avert or delay complications. The family have to foster good behavior such as paying health insurances, ensuring the immunization of the family member against different species, attending health facility earlier, participating in sport and in pollution prevention etc. smoking and alcoholism are behavior family must avoid in order to promote good health.

11.6. Summary of the unit

The unit of society and health is designed to relate society, family, and special groups in the family with health and illness. The family is the most important primary group found in any society. Families provide the support and conditions needed for healthy living, prevention of disease and opportunities for early diagnosis and treatment to avert or delay complications. There are different types of family structure which include nuclear family, single parent family, extended family, childless family and step family. There are special groups of people in the society who has been marginalized for long in health care such as sex workers, prisoners, and homosexuals. These groups of people should also be considered in designing disease prevention and curative interventions like others.

In the society people interact each other and this allow easy transmission of disease. The distribution of disease in society may either start in utero, get developed in families and then in general community. Due to interconnectedness of communities in the society and regular travel of people, disease vector may propagate in the whole country or even worldwide and became pandemic. Societies participate in promotion of health, through sanitation, pollution control, food and drug safety, sport activities, health education, disease surveillance, urban planning, occupational health and health research among others.

11.7. Answers to the end unit assessment

Answers to end unit assessment

SECTION A: 1.c; 2.b; 3.a; 4.c; 5.a; 6.a; 7.d; 8.d; 9.a; 10.c

SECTION B:

1. Refer to students' book
2. Different report highlight that sex workers are likely to be HIV+ than the general population because:
 - 1) They are less able to access health care service.
 - 2) Many sex workers face rejection from the family and that lead to a lot psychological problem among them
 - 3) Sex workers have reported facing daily harassments and stigma and many have even attempted suicide as a consequence to such maltreatment from the society

11.8 Additional activities

11.8.1 Remedial activities

1. Social epidemiologists are interested in learning about
 - a. Social distribution of disease in population
 - b. the frequency and geographic distribution of diseases
 - c. the causal relationships between diseases
 - d. All the above

Answer:

2. Match approach to family nursing in column A with specific examples provided in column B

	Approach to family nursing		Examples
A	System approach to family nursing	A	Tell me about what has been going on with your own health and how you perceive each family member responding to your mother's recent diagnoses of liver cancer?
2	Context approach to family nursing	B	What has changed between you and your spouse since your child's head injury?
3	Client approach to family nursing	C	How has your diagnosis of heart failure affected your family?
4	Family as a component of society approach		

Answer:

1=C, 2=B, 4=A

2. Describe the family as a client approach to family health nursing.

Answer:

In this approach, the family nursing care centers on the assessment of all family members. The family nurse is interested in the way all family members are individually affected by the health event of one family member. In this approach, the family is seen as the sum of individual's family members. The nurse focus is concentrated on each and every individual as they affect the whole family

11.8.2. Consolidation activities

1. How does kitchen garden (akarima k'igikoni) contribute to the prevention of malnutrition in Rwandan society?

Answer:

The main purpose of kitchen garden is to provide food for the family at low cost. Vegetables grown are cabbage, greens, carrots among other. Fruits cultivated include mangoes, passion and citrus fruits among others. Families who have kitchen garden afford vegetables and fruits known to contain essential nutrients capable to prevent malnutrition.

2. Family member must work together in order to build a healthy, strong family. Explain three responsibilities you have in your family. What would happen if you did not complete your responsibilities? Give Examples.

Answer:

The response will depend on the student's own experience in the family. Multiple responses are expected.

3. What is the role of the family in the fight against Covid 10 pandemic

Answer:

Respect of measures put in place to fight the pandemic

- Immunization against covid-19
- Social distancing
- Self-isolation when had symptoms
- Regular hand washing,
- Etc

11.8.3. Extended activities

1. How does umuganda contribute to the well-being of families and communities of Rwandan society?

Answer:

Umuganda contributes to environment protection through erosion control, tree planting and cleanings; but also, to developing, building and maintaining different infrastructures such as roads, houses for vulnerable people, public offices, health centres, schools and etc.

2. Family interaction theory is a theory that focuses on the way by which family members relate to one another. How does the application of this theory contribute to the well-being of the family?

Answer:

The good relationship between children and their family members significantly affects positively their emotional development. The child's attachment to the family of origin and social institutions such their experiences in school are believed to be central to the child and also parenteral satisfaction and low parent-child conflict are also perceived to influence the well-being of the child. The parent-child interactions can significantly impact the development of the child's emotional competence, which specifically includes self-esteem.

12.1 Key unit competence

Provide an appropriate counselling for individual, group, and family

12.2. Cross-cutting issues to be addressed**c. Inclusive education**

This unit involves activities of reading and observation of pictures. This may be challenging to students with special educational needs especially those with visual (myopia & hypermetropia) and hearing impairment. However, the teacher can address them this way:

Avail appropriate seats to accommodate those with visual and hearing impairment. Every important point is written and spoken. The written points help students with visual impairment and speaking aloud helps students with hearing impairment.

Grouping them with other students and being assigned roles basing on individual student's abilities. Remember to repeat the main points of the lessons

d. Gender education

Emphasize to learners that anybody irrespective of their gender can present and report during group activities: Give a role model of who are successful in real life without considering their gender. Make sure that during presentations both boys and girls share and participate equally in all activities.

e. environment and sustainability

As a facilitator, emphasise to the learners that environment must be sustainably cleaned for different reasons such as: A clean environment contains fresh air needed by patients and humans to survive. A clean environment assists the patient to recover from illness. Unclean environment is the habitat of microorganisms that cause illness

12.3. Guidance on the introductory activity

This introductory activity aids the teacher to involve learners in the introduction of communication and counselling and engages the learners to follow the next lessons.

Guidance on the activity:

- Ask students to observe the images provided in the student's book and discuss the given questions.
- Engage students in working mutually in the activity.
- Help students to understand the questions.
- Ask some students to present their findings while others are following
- Make sure that all students participate and give their ideas about the activity.

Expected answers to the introductory activity

1. I see three pictures; the first picture shows a group of people sharing ideas where one of them is telling a story while the others paid an attention to her. The second picture shows a child who doesn't want someone else to talk as something special is going to happen and the last picture shows a group of three people (two men and one lady); two men are worrying and feeling sorry to what happened to the lady who looks crying and worrying much more.
2. First and third pictures reveal speech based communication between individuals whereas the second picture is showing body language/sign based communication
3. The two people (men) wearing blue shirts might be religious representatives who are conducting a counselling using holy scripts as one of them is opening a bible

12.4. List of lessons/ subheadings (including assessment)

NO.	Lesson title	Learning objectives	Periods
1.	Definition and Communication process	<ul style="list-style-type: none"> – Define communication – Explain the communication process 	1
2.	Types and techniques of communication	<ul style="list-style-type: none"> – Differentiate types of communication – Compare and contrast techniques that enhance communication 	2
3.	Factors and characteristics of communication	<ul style="list-style-type: none"> – Analyze factors that influence the communication process. – Describe collaborative professional communication 	1
4.	Principles and guidance of counseling	<ul style="list-style-type: none"> – Differentiate guidance and counseling – Discuss principles of counseling – Apply guidance and counseling techniques to assist individuals, group, family and community 	2
5.	Counseling skills and qualities of good counselor	<ul style="list-style-type: none"> – Describe the qualities of a good counselor – Explain common counseling skills – Describe the counseling process – Provide effective counseling to individual, group and family 	2
6.	Counseling process and barriers to effective counseling	<ul style="list-style-type: none"> – Explain the stages of counseling process – Demonstrate therapeutic communication skills during client-nurse relationship 	2

LESSON 1. Definition and Communication process

a. Learning objectives

At the end of this lesson, learners should be able to:

- Define Communication
- Explain the communication process

b. Teaching resources

Projectors, screen, student book

c. Prerequisites/Revision/Introduction

The prerequisites of this unit “communication and counselling” is that the learner should have learnt: Human biology, ethics and professional code

d. Learning activity 12.1

Guidance

- Help learners to form groups of 4 persons each to do the activity 12.1
- Ask them to observe the picture, discuss on it and answer asked questions in their groups
- Pass around groups guiding and facilitating them.
- Remember to assist those who are weak but without giving them the answers.
- Identify any 2 groups randomly to present their findings to the whole class by writing them the chalkboard.
- Ask other students to follow carefully the presentations.
- Note on chalk board the learner’s ideas.
- Make sure that all students give their ideas about the activity
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete.
- Harmonize and conclude on the learned knowledge and still engage students in making that conclusion

Answers to learning activity 12.1

Q1:

- In individual hospitalization room; a patient under oxygen therapy through nasal canula ,sitting in his bed and answering questions asked by a health care provider
- A woman health care provider (nurse or midwife) holding a tablet (computer) in her hands entering information from the patient in the tablet

Q2: They are sharing information; patient-health care conversation

Q3: The topic of conversation is the health status of patient.

Answers to self-assessment 12.1

Q1: The communication is the transmission of information, ideas, and emotions, skills through the use of symbols, words, pictures, figures, and graphs

Q2: The communication allows the sender and the receiver to understand the message in the common sense, that is, they develop common understanding of the message

Q3: Seven steps in communication process are:

1. The sender develops an idea to be sent.
2. The sender encodes the message.
3. The sender selects the channel of communication that will be used.
4. The message travels over the channel of communication.
5. The message is received by the receiver.
6. The receiver decodes the message.
7. The receiver provides feedback, if applicable.

LESSON 2. Types and techniques of communication

a. Learning objectives

At the end of this lesson, learners should be able to:

- Differentiate types of communication
- Compare verbal and nonverbal communication
- Compare and contrast techniques that enhance communication to techniques that hinder communication

b. Teaching resources

Projectors, screen, student book

c. Prerequisites/Revision/Introduction

Types and techniques of communication help nursing professionals to effectively collaborate with clients/patients and with others health professional colleagues

d. Learning activity 12.2

Guidance

- Ask students to work in pair and do activity 12.2 in student's book.
- Provide the necessary materials to the learners.
- Move around in silence to monitor if they are sharing ideas in pairs or having any problem.
- Assist those who are weak but without giving them the answers.
- Invite pairs to present their findings to the rest of students.
- Ask other students to follow carefully the presentations.
- Note on chalk board
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete.
- Make sure that all students give their ideas about the activity.

Answers to learning activity 12.2

Q1:

Picture A: A woman who is showing 3 fingers as she is meaning number 3, it is the symbol of acceptance (ok symbol)

Picture B: A woman who is talking something in close contact (in the ear) of a man

Picture C: Hands of a man that are writing something on the computer (Laptop)

Picture D: A woman who is watching something on the computer laptop, she is laughing

Q2: The difference is that the picture C shows some one writing with hands on a computer while picture D showing someone watching by eyes on computer

Answers to self-assessment 12.2

Q1:

Type: a type means people, places or things that share traits which allow them to belong to the same group

Technique: a way of carrying out a particular task, especially the execution or performance of an artistic work or a scientific procedure

Q2:

Verbal Communication:

The most common form of communication is the spoken word. It can be used to convey information, ask questions or request a response from others. Verbal communication includes all forms of speech, such as talking, shouting, whispering, singing, chanting, and reading aloud.

Non-verbal Communication: Non-verbal communication includes nodding, shaking hands, pointing, eye contact, smiling, frowning, touching, leaning forward, standing up straight, sitting down, crossing arms, etc. These gestures help us understand what another person means when they speak.

Written Communication: Written communication includes letters, e-mails, faxes, memos, reports, and other written messages. Written messages include text on paper and computer screens

Visual Communication: Visual communication includes photographs, paintings, diagrams, charts, maps, graphs, drawings, sketches, animations, and videos.

Q3: Following 5 techniques are used in communication

- Pay attention: Give the speaker your undivided attention.
- Show that you're listening: It is important that you are 'seen' to be
- Give feedback: Our life experiences and beliefs can distort
- Keep an open mind: a willingness to listen to or accept different ideas or opinions.
- Respond appropriately: Active listening encourages respect

LESSON 3: Factors and Characteristics of communication

a. Learning objectives

At the end of this lesson, learner should be able to:

- Analyze factors that influence the communication process.
- Describe the elements of collaborative professional communication
- Demonstrate the collaborative professional communication

b. Teaching resources

Projectors, screen, Student textbook

c. Prerequisites/Revision/Introduction

In communication, some factors may enhance effective communication while others are barriers to the communication; in nursing science studying factors and characteristics of communication allow learners to know when, how and what to communicate with others

d. Learning activities 12.3

Guidance

- Help learners to form groups of 5 persons each to do the activity 12.3
- Provide the necessary materials to the learners (book).
- Ask learners to observe pictures and respond asked questions
- Move around in silence to check if all of them are on the page.
- Assist those who are weak but without giving them the answers.
- Invite two groups to present their findings.
- Ask other students to follow carefully the presentations
- Note on chalk board / Manila paper the student's ideas.
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete.
- Make sure that all students give their ideas about the activity.

Answers to learning activity 12.3

Answer Q1:

I see a group of individuals joined in one room .one person is speaking to them but each of the rest is bored and no one is following his speech. There are bottles on the table, there are also notebooks and pens but no one is writing down notes.

Answer Q2: What the people from picture A means to me is that there isn't effective communication between the audience and guider.

Answer Q3: The person in picture B is not safe.

The cause is that many individuals are communicating him in disorder.

Answer Q4: They are three. They are together but different thoughts, different direction and different orientation and it is not easy for them to communicate effectively.

Answers to self-assessment 12.3

Answer Q1:

1. Speaking clearly/articulation
2. Knowledge of the receiver / audience
3. Speed and sequence of speech
4. Relationship between the sender and the receiver
5. Command of subject (mastery of subjects matter)

Answer Q2:

6. Poor listening habits
7. Inadequate knowledge of the subject
8. Biases and stereotypes
9. Lack of interest on the subject
10. Personal opinions
11. Interruptions
12. Religious and cultural difference

Answer Q3:

1. Right information is shared
2. Minimizes conflicts
3. Resources such as time and money are saved
4. Helps in establishing rapport
5. Intended results are achieved

Answer Q4:

- Motivation
- Communication
- Diversity
- Sharing
- Support
- Problem solving

Answer Q5:

- Good listener
- Concise
- Appreciative
- Polite
- Organized

LESSON 4: Principles and guidance of counselling**a. Learning objectives**

- Define counseling
- Differentiate guidance and counseling
- Describe the role of a counselor
- Discuss principles of counseling
- Apply guidance and counseling techniques to assist individuals, group, family and community

b. Teaching resources

Projectors, screen, Student textbook

c. Prerequisites/Revision/Introduction

A good performance of any activity needs principles and guidance to be followed; principles and guidance of counselling will lead to positive outcomes

d. Learning activities 12.4

Guidance

- Help learners to form groups of 2 persons each to do the activity 12.4
- Provide the necessary materials to the learners (book).
- Ask learners to observe pictures and respond asked questions
- Move around in silence to check if all of them are on the page.
- Assist those who are weak but without giving them the answers.
- Invite two groups to present their findings.
- Ask other students to follow carefully the presentations
- Note on chalk board / Manila paper the student's ideas.
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete.
- Make sure that all students give their ideas about the activity.

Answers to learning activity 12.4

Answer Q1:

The relationship between Mr X and health care provider is that Mr x is a patient seeking for psychotherapeutic care and the health care provider is a counselor.

Answer Q2:

Yes, but it has to take place in safe area in a respectful order.

Answer Q3:

In the picture B, the conversation is about order and principles giving related to the new job

Answers to self-assessment 12.4

Answer Q1:

Counseling: the psychotherapeutic relationship in which an individual receives direct help from an adviser or finds an opportunity to release negative feelings and thus clear the way for positive growth in personality.”

Guidance: Guidance is a piece of active advice offered to individuals from a superior in the respective field or a professional. It is the procedure of guiding, managing or leading a person for a particular course of action

Answer Q2:

4 types of counseling

- Individual counselling. Individual counselling is a way to help people work through difficulties in their lives.
- Couples counselling.
- Group counselling.
- Family counselling

Answer Q3:

Pick 4 among following principles

Principle of acceptance

Accept the patient with his physical, psychological, social, economic and cultural conditions.

Principle of communication

Communication should be verbal as well as non-verbal and should be skillful.

Principle of empathy

Instead of showing sympathy put yourself in patient's shoes and then give reflections accordingly (Empathy is ability to identify with a person.)

Principle of non-judge

Mental attitude-do not criticize or comments negatively regarding patient's complaints.

Principle of confidentiality

Always keep the patient's name, and the problems strictly secret and assure the patient about the same.

Principle of individuality

Treat each and every patient as unique and respect his problem as well.

Principles of non-emotional involvement

Not getting emotionally involved with the patient and avoid getting carried away with his feelings.

LESSON 5: Counselling skills and qualities of good counsellor

a. Learning objectives

- Describe the Qualities of a good counselor
- Explain common counselling skills
- Describe the counselling process
- Provide effective counselling to individual, group and family
- Teaching resources
- Projectors, screen, Student textbook

b. Prerequisites/Revision/Introduction

The learner should have well understood principle and guidance of counselling

c. Learning activities 12.5

Guidance

- Help learners to form groups of 2 persons each to do the activity 12.5
- Provide the necessary materials to the learners (book).
- Ask learners to observe pictures and respond asked questions
- Move around in silence to check if all of them are on the page.
- Assist those who are weak but without giving them the answers.
- Invite three groups to present their findings.
- Ask other students to follow carefully the presentations
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete.
- Make sure that all students give their ideas about the activity.

Answers of learning activity 12.5

1. I see two picture A and B, each picture made with two ladies sitting together, one with notebook and a pen
2. It looks like the people with booklets and pens are recording some information for further use.
3. They are in a unit charged of counselling
4. The people who are in the pictures above ,those who are writing ,they paid an attention as they want to understand deeply the problem of the others for any solution whereas those who are not writing they look so worried ,disappointed, troubled as they are seeking for therapeutic support.

Answer for self-assessment 12.5

Answer question 1:

1. Interpersonal skills
2. Trust
3. Flexibility
4. Hope and optimism
5. Multicultural sensitivity
6. Self-awareness

Answer question 2:

- Active listening
- Questioning
- Note-taking
- Interpretation
- Nonverbal communication competency
- Self-awareness
- Trustworthiness
- Empathy
- Emotional compartmentalization
- Information recall
- Confidentiality
- Record keeping

Answer question 3:

The process begins with exploring the challenges a client faces. Helping clients with physical, emotional, and mental health issues, the counselor helps them resolve crises, reduce feelings of distress, and improve their sense of wellbeing. Treatment can change how a client thinks, feels, and behaves in an upsetting situation.

LESSON 6: Counselling process and barriers to effective counselling

a. Learning objectives

- Explain the stages of counseling process
- Demonstrate therapeutic communication skills during client-nurse relationship
- Explain barriers to effective counseling

b. Teaching resources

Projectors, screen, student textbook

c. Prerequisites/Revision/Introduction

The learner should have learnt lessons of “Principles and guidance of counselling” and “counselling skills and qualities of good counsellor”

d. Learning activity

Guidance

- Help learners to form groups of 3 persons each to do the activity 12.6
- Provide the necessary materials to the learners (book).
- Ask learners to observe picture and respond asked questions
- Move around in silence to check if all of them are on the page.
- Assist those who are weak but without giving them the answers.
- Invite two groups to present their findings.
- Ask other students to follow carefully the presentations
- Note on chalk board / Manila paper the student’s ideas.
- Tick the correct findings and correct those ones which are incorrect and try again to complete those which are incomplete.
- Make sure that all students give their ideas about the activity.

Answers learning activity 12.6

1. No, they aren’t.
2. No, they can’t communicate effectively
3. Because one of the two people (a man) is in trouble at high level.
4. He needs mental health care, which is counselling.
5. Factors like communication process and skills can bring to effective counselling.

Answers for self-assessment 12.6

Question 1

Counselors and clients attempt to define, address, and resolve problems of the client in face-to-face interview

Question 2

- Individual counseling.
- Couples counseling.
- Group counseling.
- Family counselling

Question 3

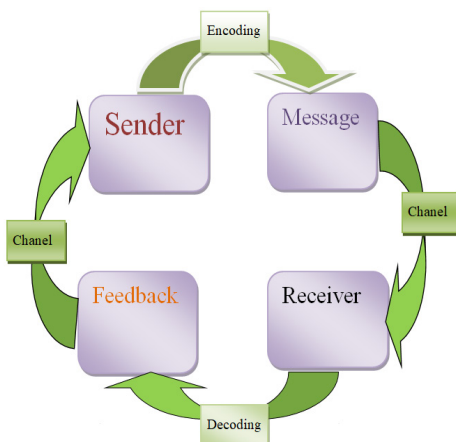
For the critical difference between guidance and counseling refer in the student book

12.5. Summary of the unit

During this unit development” **communication and counseling**”, definitions of counseling, communication and its derivatives were highly defined, types and techniques of communication, factors and characteristics of communication, Principles and guidance of counseling, counseling skills and qualities of good counselor and counseling process and barriers to effective were the main lessons of the unit. Each lesson developed within this unit includes learning activity, learning objectives, teaching resources and prerequisites. At the end of the lesson questions and answers for assessment were provided.

12.6. Answers of end unit assessment

1. Referring on the communication process diagram complete the chart below



2. Define the following words:

a. Communication

Communication can broadly be defined as exchange of ideas, messages and information between two or more persons, through a medium, in a manner that the sender and the receiver understand the message in the common sense that is, they develop common understanding of the message.

b. Collaboration

Collaboration is defined as a joint effort of multiple individuals or work groups to accomplish a task or project

c. Counselling

Counseling is the psychotherapeutic relationship in which an individual receives direct help from an adviser or finds an opportunity to release negative feelings and thus clear the way for positive growth in personality.”

d. Guidance

Guidance is a piece of active advice offered to individuals from a superior in the respective field or a professional. It is the procedure of guiding, managing or leading a person for a particular course of action.

e. Empathy

Sensing a client’s emotions and reacting to them as if they were your own describes empathy within therapy.

3. What is the difference between verbal and nonverbal communication?

Verbal communication is a communication done in spoken word which can be used to convey information, ask questions or request a response from others. It includes all forms of speech, such as talking, shouting, whispering, and singing, chanting, and reading aloud whereas nonverbal communication is done without using words it includes nodding, shaking hands, pointing, eye contact, smiling, frowning, touching, leaning forward, standing up straight, sitting down, crossing arms.

4. What are the Benefits of effective communication?

- Right information is shared
- Minimizes conflicts
- Resources such as time and money are saved
- Helps in establishing rapport
- Intended results are achieved
- Sender is able to provide intended feedback
- Enhances harmonious co-existence and conflicts are resolved amicably

5. Explain the role of a counsellor during a psychotherapy session

The role of a counselor is to help people with physical, emotional and mental health issues improve their sense by helping them see their situation and feelings from a different viewpoint. A helping approach that highlights the emotional and intellectual experience of a client is one of the ways that counseling works with clients from childhood through to old age.

6. Give 5 stages of the counseling process?

- Relationship building is stage one of the process.
- Stage two is problem assessment.
- Goal setting is the third stage.
- Stage four includes counseling intervention.
- Stage five includes evaluation, firing or referral.

The client has some key steps.

7. Enumerate barriers of counseling?

- Counseling is too expensive.
- Counseling is too embarrassing.
- I've been to counseling and it didn't work.
- I'm not the one who needs counseling.
- I don't have time for counseling.

12.7. Additional information for teachers

The teacher should have knowledge on following theories and model of communication:

- Aristotle's model
- Paul Leagan model
- Shannon and Weaver model
- Berlo model
- Gerber's model

12.8. REMEDIAL ACTIVITIES

Questions of extended activities

1. Explain how communication skills can lead to effective counseling?
2. What is the importance of feedback in communication process?
3. When trying to explain something to listeners, why is necessary to ask if they are following you?
4. What is the difference between a psychiatrist, clinical psychologist and counselor?
5. **What are the Advantages and disadvantages of verbal communication?**

Answers for questions of extended activities

Answer Q1:

These skills enable a counselor to effectively build a working alliance and engage clients in discussion that is both helpful and meaningful

Answer Q2:

- The process of communication is successful when the sender receives the feedback from the receiver.
- Feedback helps the sender to know whether the message communicated to the receiver has been understood by the receiver properly.
- Feedback depends upon the type of communication. In case of oral communication or face-to-face the communication feedback is immediately available and the sender can judge the effectiveness of his message communicated to the receiver immediately.
- In case of written communication, the feedback is not immediately available to the sender. The receiver may take time in sending response to the sender.
- Moreover, the sender cannot see the face expressions of the receiver.

Answer Q3:

It's important to attract the audience's attention and build their interest.

Answer Q4:

Psychiatrist

A psychiatrist is a trained medical doctor, who can prescribe medications and spend much of their time with patients on medication management as a course of treatment.

Clinical Psychologist

A clinical psychologist is a trained personnel focusing extensively on psychotherapy and treating emotional and mental suffering in patients with behavioral intervention.

Counselor

A counselor is a person trained to give guidance on personal or psychological problems.

Answer Q5:

Advantages of Verbal communication

- **Time Saving:** We can express our thoughts easily and quickly and it is an easier form of communication.
- **Quick Feedback:** We can get a quick response from the listener.
- **Disadvantages of verbal communication**
- **Language barriers:** Difficult to share thoughts or ideas in different languages.
- **Cultural Difference** – The cultural difference is the main disadvantage of verbal communication

12.9. Consolidation Activities

Questions of consolidated activities

1. What is the importance of communication?
2. What is counseling?
3. How does counseling work?
4. Who is counseling for?
5. When to seek counselling?
6. Are all counseling sessions confidential?

Answers for consolidated activities

Answer Q1:

- Communication helps to improve physical, social and good relationships between family and friends.
- We give facts or information to someone in daily life.
- Communication is required to influence or change someone in an indirect but usually important way.
- It is used while expressing some one's views or feelings to others

Answer Q2: Counseling is a process that focuses on enhancing the psychological well-being of an individual. Coming for counseling allows an individual to reach his full potential and live an enriching life.

Answer Q3: During counseling, personal growth, development and self-understanding is facilitated by a counselor who guides in developing an action plan to cope with and even overcome the issues.

Answer Q4: A common misconception about counseling is that only people with severe mental health issues need counseling. In reality, many people who attend counselling are bright and stable individuals who are looking for solutions to everyday issues like stress and relationship problems.

Answer Q5: Counseling is about strengthening oneself and seeking personal growth and development. If you find yourself experiencing troubling thoughts and emotions, it is extremely important to take the crucial step forward and seek professional help.

Answer Q6: All information and written records disclosed during and pertaining to sessions are confidential and may not be revealed to anyone without the client's written permission, except where disclosure is required by law.

12.10. Extended Activities

Questions of remedial activities

Question 1: What are the basic elements of communication?

Question 2: What is the most important element in the communication that permits continuation of communicating?

Question 3: Give the meaning of following type of communication

- a. Intra personal communication:
- b. Interpersonal communication:

Answers of remedial activities

Answer Q1: They are sender, message, channel, and receiver and feedback.

Answer Q2: In any communication, feedback is very important without feedback we can't communicate or go further talking.

Answers Q3:

- a. Intra personal communication: is defined as communication with one's self and that may include self-talk, acts of imagination and visualization, and even recall and memory.
- b. Interpersonal communication: is the process of exchange of information, ideas and feelings between two or more people through verbal or non-verbal methods

13.1 Key unit competence

Participate in managing gender based violence cases in community and healthcare setting

13.2 Prerequisites

Students will learn better to manage gender-based violence cases in community and healthcare setting if they have better understanding of the nursing ethics and professional code of conduct, notions of society and health as well as those pertaining to citizenship, and reproductive health.

13.3 Cross-cutting issues to be addressed

Throughout teaching this unit you have a duty to relate the content being taught with the following cross-cutting issues:

a. Environment and sustainability

As the teacher, remind the students that the environment must be sustained at all cost. Students should understand the importance of proper handling and disposal of waste to protect and sustain the environment. Additionally, emphasize that GBV survivors need a safe, conducive and supporting environment.

b. Inclusive education

To ensure that learning is inclusive, as a facilitator: Place learners with visual impairment in appropriate places. Those with short-sightedness (myopia) must sit on front desks in class while those with long sightedness must sit on back desks.

c. Peace and values

Throughout the lessons, the teacher will remind the students the importance of having an attitude that inspires peace and serenity. He/she will debate with students how to resolve inter-personal tensions, disputes through negotiation and peer-mediation. He will invite them to maintain a climate of peace in the school and different interventions in which they are involved.

d. Gender

This course requires the participation of both girls and boys. Make sure that all learners are actively involved as this is very sensitive topic for both females and males sex. While encouraging students, let them know that gender disparities of any form are prohibited in their interventions.

13.4 Guidance on the introductory activity

Before starting the first lesson of the unit “Introduction and GBV related concepts” ask learners to attempt an introductory activity. This activity intends to draw the learners’ attention to the content of the unit and assess what they already know on GBV.

Methodological steps to the introductory activity

As a facilitator, request learners to:

- Carefully observe pictures under the introductory activity 13 in the student book
- In groups of five to six that include both males and females, request them to answer the questions of the introductory activity.
- Each group records their answers. Let the learners know that there are no wrong answers to enhance their participation
- Appoint randomly any 2 or 3 groups to write their answers on the chalkboard or flipchart.
- Ask other groups members if they have something to add on what is written on the chalkboard or flipchart.

Answer to introductory activity 13

- a. Image A shows the commonly used signs that represent biological difference between male (blue sign) and female (red sign) though sometimes used as a binary categorization of gender as masculine and feminine. Thus underlying concepts are sex and gender
- b. Image B represent four instances in which two individuals involved in various kind of violence acts (the victim and the perpetrator) in a bid to classify categories of GBV as physical, economic, sexual and psychological
- c. Image C shows a grave and two orphan children. In relation to GBV this represent repercussions of GBV that not only affect the primary victim but also families, communities and the society at large
- d. Image D represent a health education session to represent both the role of gender in health promotion and disease prevention as well as interventions that can be undertaken to address GBV

13.5 List of lessons / sub-headings

N°	Lesson title	Objectives	Number of periods
1	Introduction and GBV related concepts	Define the concept of gender Contrast the concepts of gender and sex Define the concept of gender-based violence	1 periods
2	Role of gender in health promotion and diseases prevention	Explain the role of gender in health promotion and diseases prevention	1 period
3	Types of gender based violence	Explain different types of GBV	1 period
4	Common causes of GBV	Discuss the common causes of GBV	1 period
5	The primary victims and survivors of GBV	Outline the primary victims and survivors of GBV	1 period
6	The main GBV perpetrators	Outline the main GBV perpetrators	1 period
7	Interventions for GBV	Describe the consequences of GBV	1 period
8	National guidelines for GBV prevention	Outline the national guiding elements for GBV prevention	1 period
9	Professional behavior in managing GBV cases	List four professional principles guiding management of GBV cases	1 period
10	The consequences of GBV	Describe the consequences of GBV	1 period
11	GBV health education	Provide GBV prevention health education to community	1 periods
12	Theoretical assessment (End unit assessment)		1 period

LESSON 1: Introduction and GBV related concepts

a. Learning objectives

At the end of the lesson, students will be able to:

- Define the concept of gender
- Contrast the concepts of gender and sex
- Define the concept of gender-based violence

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have a good understanding of notion pertaining to society and those of citizenship.

d. Learning activity 13.1

Guidance

- Before introducing the lesson, you have to introduce the whole unit.
- As a facilitator, form groups of 5 to 6 students depending on their class size
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Ask students to attempt the learning activity 13.1
- Move around groups guiding and facilitating them
- Select randomly like 3 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Encourage and ensure both males and females participate both in presenting the work done, adding any missed idea on what is presented and in asking questions
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability get what you say.

Answers to learning activity 13.1

Answer to question a:

Image A shows two children playing with their toys. It is clear that the toys of the girl and the ones of the boy are different while image B shows a person who displays both male and female and or masculine and feminine characteristics. These two pictures are in relation with how different cultures and societies construct and view gender norms, roles, and responsibilities. Particularly, image A display how theses socially constructs are imbedded into learning process and image B represent existing differences across individual with regards to their sexual orientation, gender identity and gender expression.

Answer to question b:

Image C shows two individuals one representing male/masculine side and another one representing the female/feminine, each one trying to pull his or her side. This tag of war that is everlasting represent prevailing gender inequality and inequity

Answer to question c:

Image D show a man aggressing a woman to represent GBV

Answer to question d:

There are no wrong answers as the students responses are based on their experiences. The intent of this question is to check whether students have any kind of experience regarding the concepts under this lesson such as concepts of sexual orientation, sexual identity, gender identity, gender expression, gender-based violence and gender equality and equity.

Answers to self-assessment 13.1

Q1: refer to the student book (13.1.1). Additionally refer to the additional information (table on difference between sex and gender)

Q2: refer to the student book (13.1.1).

Q3: refer to the student book (13.1.4 for a, and 13.1.2 for b and c).

LESSON 2: Role of gender in health promotion and diseases prevention

a. Learning objectives

At the end of the lesson, students will be able to explain the role of gender in health promotion and diseases prevention

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have a good understanding of notion pertaining to society and those of citizenship as well as concepts learnt in lesson one of this unit.

d. Learning activity 13.2

Guidance

- As a facilitator, form groups of 5 to 6 students depending on their class size
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Ask students to attempt the learning activity 13.2
- Move around groups guiding and facilitating them
- Select randomly like 3 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Encourage and ensure both males and females participate both in presenting the work done, adding any missed idea on what is presented and in asking questions
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability get what you say.

Answer to learning activity 13.2

- a. Image A is showing various individuals joining hands together, it is trying to express the importance of everyone effort toward health promotion and disease prevention. Health promotion and disease prevention should be everyone concern
- b. Image B is attempting to explain various health promotion and disease prevention interventions which result in better health and wellness (Green graph) and disease reduction (red graph)
- c. Through the lens of gender and health, these images relate in such health promotion and disease preventions are every one concern, thus need to consider gender differences in planning, implementing and evaluating these interventions

Answers to self-assessment 13.2

Q1: refer to student book (13.2)

Q2: answers should be formulated around using gender analysis and gender integration for policy development and planning, implementation and evaluation oh health promotion interventions and or reducing gender inequalities

LESSON 3: Types of gender based violence

a. Learning objectives

At the end of the lesson, students will be able to explain different types of GBV

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have a good understanding of notion pertaining to society and those of citizenship.

d. Learning activity 13.3

Guidance

- As a facilitator, form groups of 5 to 6 students depending on their class size
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Ask students to attempt the learning activity 13.3

- Move around groups guiding and facilitating them
- Select randomly like 2 to 3 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Encourage and ensure both males and females participate both in presenting the work done, adding any missed idea on what is presented and in asking questions
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability get what you say.

Answer to learning activity 13.3

- All the images reflect some degree of violence
- Picture A is showing a man beating a woman to represent a category of physical GBV
- Picture B is showing a man sexually violating a woman to represent the category of sexual GBV
- Picture C is showing female genital cutting (female genital mutilation) to represent Harmful traditional practices/cultural forms of violence
- Picture D is showing a man shouting at woman in relation money to illustrate socio-economic GBV

Note: there is an overlap across GBV categories

Answer to self-assessment 13.3

Q1: refer to student book (13.3)

Q2: a, b, c, d, e

LESSON 4: Common causes of GBV

a. Learning objectives

At the end of the lesson, students will be able to discuss the common causes of GBV

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for learning activity, Manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have a good understanding of notion pertaining to society and those of citizenship.

d. Learning activity 13.4

Guidance

- As a facilitator, form groups of 5 to 6 students depending on their class size
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Ask students to attempt the learning activity 13.4
- Move around groups guiding and facilitating them
- Select randomly like 2 to 3 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Encourage and ensure both males and females participate both in presenting the work done, adding any missed idea on what is presented and in asking questions
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability get what you say.

Answer to learning activity 13.4

Answer to question a:

- Image A represent gender inequalities (including education and power imbalances) relationships between men and women
- Image B represent scarcity of resources (poverty)
- Image C represent various societies and related cultures
- Image D represent community influences and related political and legal aspects

Answer to question b:

Referring to these pictures, the causes of GBV varies and root in discriminatory cultural beliefs that create and perpetuate inequalities which most of the times affect negatively women and associated poverty; misuse of power and unfair laws and politics.

Answer to self-assessment 13.4

Answer to question 1: b

Answer to question 2: a, b, c and d

LESSON 5: The primary victims and survivors of GBV

a. Learning objectives

At the end of the lesson, students will be able to outline the primary victims and survivors of GBV

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have a good understanding of notion pertaining to society and those of citizenship.

d. Learning activity 13.5

Guidance

- As a facilitator, form groups of 5 to 6 students depending on their class size

- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Ask students to attempt the learning activity 13.5
- Move around groups guiding and facilitating them
- Select randomly like 2 to 3 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Encourage and ensure both males and females participate both in presenting the work done, adding any missed idea on what is presented and in asking questions
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability get what you say.

Answer to learning activity 13.5

- a. Picture A shows a man who is beating a woman and three children of whom one is trying to a cease fight
- b. Picture B shows a woman suffering from periorbital bruises as result of direct impact of a punch on her face during the fight. In this scenario the woman is the primary victim while children are other victims of this violence (secondary victims).

Answer to self-assessment 13.5

1. False. GBV affects also men and boys though women and girls are the most affected
2. These children are secondary victim as they assist at that domestic violence
3. Refer to student book (13.5)

LESSON 6: The main GBV perpetrators

a. Learning objectives

At the end of the lesson, students will be able to outline the main GBV perpetrators

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have a good understanding of notion pertaining to society and those of citizenship.

d. Learning activity 13.6

Guidance

- As a facilitator, form groups of 5 to 6 students depending on their class size
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Ask students to attempt the learning activity 13.6
- Move around groups guiding and facilitating them
- Select randomly like 2 to 3 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Encourage and ensure both males and females participate both in presenting the work done, adding any missed idea on what is presented and in asking questions
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability get what you say.

Answer to learning activity 13.6

Answer to question a:

Across all of these images we observe violence of one' wrights i.e. GBV

Answer to question b:

- In picture A, we observe a woman who is beating a man using a sauce-pan (probably a hot sauce-pan). In this picture the man is a primary victim while the woman is the one perpetrating this violence (perpetrator).
- In picture B, we see a woman being violated by a masked person (a man). In this scenario, the victim is known but the perpetrator is not known.
- In picture C, we observe a man (the boss) who is harassing a woman (probably his secretary). In this scenario, the boss is the perpetrator.
- In picture D represent a woman who is left bleeding after being violated by three men who are leaving the scene. In this scenario the woman is the primary victim while the three men are perpetrators.

Answer to self-assessment 13.6

Answer to question 1:

Mass media ca promote GBV through diffusing art-works e.g. music videos, stories etc. that portray women and girls negatively.

Answer to question 2:

False

False

True

Answer to question 3:

The category of GBV perpetrators associated with female genital mutilation is the family and friends category

LESSON 7: Interventions for GBV

This is 1 period lesson

a. Learning objectives

At the end of the lesson, students will be able to describe the consequences of GBV

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have a good understanding of notion pertaining to society and those of citizenship.

d. Learning activity 13.7

Guidance

- As a facilitator, form groups of 5 to 6 students depending on their class size
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Ask students to attempt the learning activity 13.7
- Move around groups guiding and facilitating them
- Select randomly like 3 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Encourage and ensure both males and females participate both in presenting the work done, adding any missed idea on what is presented and in asking questions
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability get what you say.

Answer to learning activity 13.7

Answer to question a:

- Image A is showing two hands that are breaking handcuffs style jail (in form of masculinity and femininity) to represent the need to break chain of inequalities that exist between women and men.
- Image B is showing an education session in which both male and female are participating in
- Image C is showing a weighing scale that shows a balance between men and women (reading Gender equality)

Answer to question b:

These images are related in such they attempt to explain what is needed and how to do it to arrive to gender equality. Thus to address GBV one of the intervention is to educate both men/boys and women/girls to break chains of gender inequality.

Answer to self-assessment 13.7

Answer to question 1:

Three to be taken by a country as a primary responsibility for preventing and responding to GBV include:

- Taking all necessary legislative, administrative, judicial and other measures to prevent, investigate and punish acts of gender-based violence,
- Criminalize all acts of gender-based violence, and
- Take measures to eliminate all beliefs and practices that discriminate against women

Answer to question 2: a, b, and c

LESSON 8: National guidelines for GBV prevention

a. Learning objectives

At the end of the lesson, students will be outline the national guiding elements for GBV prevention

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have a good understanding of notion pertaining to society and those of citizenship.

d. Learning activity 13.8

Guidance

- As a facilitator, form groups of 5 to 6 students depending on their class size
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Ask students to attempt the learning activity 13.8
- Move around groups guiding and facilitating them

- Select randomly like 3 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Encourage and ensure both males and females participate both in presenting the work done, adding any missed idea on what is presented and in asking questions
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability get what you say.

Answer to learning activity 13.8

Answer to question a:

Image A shows the national policy against gender-based violence while image B shows isange one stop centre.

Answer to question b:

The national policy establishes isange one stop center as a Centre to take care of victims of GBV

Answer to self-assessment 13.8

Answer to question 1:

The national guiding elements for GBV prevention seek progressively eliminate GBV through the development of a preventive, protective, supportive and transformative environment.

Answer to question 2:

It is important to involve relevant community members as a guideline to prevent GBV as this step enables the community to learn about how the program will operate and offer information on how the program may positively and/or negatively impact community norms and existing gender roles and inequalities in preventing GBV.

LESSON 9: Professional behavior in managing GBV cases

This is 1 period lesson

a. Learning objectives

At the end of the lesson, students will be able to list 4 principles guiding professional management of GBV cases

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have a good understanding of ethics, notion pertaining to society and those of citizenship.

d. Learning activity 13.9

Guidance

- As a facilitator, form groups of 5 to 6 students depending on their class size
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Ask students to attempt the learning activity 13.9
- Move around groups guiding and facilitating them
- Select randomly like 3 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Encourage and ensure both males and females participate both in presenting the work done, adding any missed idea on what is presented and in asking questions
- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability get what you say.

Answer to learning activity 13.9

Answer to question a:

Image A shows a healthcare provider taking and recording healthcare history while in image B there is a healthcare provider who has done home visit to provide health education.

Answer to question b:

With reference to the above images, professional GBV interventions may include home visits, counselling, health education, comforting

Answer to self-assessment 13.9

Answer to question 1: b

Answer to question 2: b, d, e and g

LESSON 10: The consequences of GBV

This is 1 period lesson

a. Learning objectives

At the end of the lesson, students will be able to describe the consequences of GBV

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have a good understanding of notion pertaining to society and those of citizenship.

d. Learning activity 13.10**Guidance**

- As a facilitator, form groups of 5 to 6 students depending on their class size
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Ask students to attempt the learning activity 13.10
- Move around groups guiding and facilitating them
- Select randomly like 3 groups to share their answers to the whole class by requesting one student to write them on the chalkboard or flipchart.
- Ask the remaining groups to add any ideas on what other groups have presented.
- Allow the class to ask questions related to the presented topic.
- Encourage and ensure both males and females participate both in presenting the work done, adding any missed idea on what is presented and in asking questions

- Firstly, request the members of groups which have presented to respond to the questions; secondly, if they are not able to clarify, ask the same question to other groups; finally, if all groups are not able to respond, deliver the answer to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability get what you say.

Answer to learning activity 13.10

- Picture A shows a hand holding a suicide rope. With regard to GBV, this image represents a person (GBV survivor) who is attempting to commit suicide as a consequence of GBV
- Picture B portrays a depressed woman as a consequence of GBV
- Picture C shows two orphan children as a consequence of GBV
- Picture D shows a man in jail after perpetrating GBV

Answer to self-assessment 13.10

Answer to question 1:

4 sexual and health reproductive consequences of GBV may include:

- Unplanned pregnancies and children
- Induced, unsanitary, and dangerous abortions
- Sexually transmitted infections, including HIV
- Barrenness due to disease and injury
- Sexual dysfunction
- Injury to reproductive organs, leading to lifelong malfunctions
- Early pregnancy
- Destabilization of the menstrual cycle
- Deformed genitalia and related health complications
- Loss of sexual desire and painful sexual intercourse
- Infertility

Answer to question 2:

Physically, victims of GBV may suffer various injuries, including bleeding, wounds, burns, fractures, permanent disfigurement, physical disability, stunted physical growth (for children), fistula or even death.

Answer to question 3: False

LESSON 11: GBV health education

This is the last lesson of the unit which should be taught in 2 periods. It should also cover the health education of the unit.

a. Learning objectives

At the end of the lesson, students will be able to provide the GBV prevention health education to community

b. Teaching resources

The needed teaching resources are: computer, projector, illustrated pictures in the students' book and pictures for Learning activity, manila paper and or flipchart, black board and chalk.

c. Prerequisites

Students will learn better the content of this lesson if they have a good understanding of the previous lessons of this unit of GBV as well as good knowledge of communication.

d. Guidance on GBV health education activity

- Before introducing the lesson, you have to introduce the lessons of whole unit.
- Ask student to form group of 5 to 6 students, and ask one student to prepare health education, by preparing the topic to teach to others for example;
- Group 1 teaches on professional behaviors in managing GBV cases. And then group 2 prepare for teaching the interventions to prevent on GBV.
- Remind them that the one who will teach others should bearing in mind that is teaching GBV topic which is sensitive, so that He /She will take into account of the Gender.
- Move around groups guiding and facilitating them as they are preparing the Topic to present.
- In mixed class, remember to form groups that contain both boys and girls as well as in presentation.
- Inform the students that one student is playing a role of Health care provider who is giving health education to the clients (patients who attended the health Facility)
- Inform other students remaining of the group that they are playing role of the audience /clients/patients who attended the health Facility.
- Tell the one who is teaching to introduce the topic of the day and then deliver the content and conclusion. The students who is teaching others will also ask the questions to the group and debate on the topic.
- Ask the remaining members of groups to add any ideas on what other have presented and /or ask the questions if they have.

- Allow the class to debate on the topic to come up with the conclusion and understanding of the content related to the presented topic about GBV. Remind the student that dealing with survivors of GBV can be a very challenging and sensitive topic.
- Finally, if all groups are not able to come up with the conclusion, intervene and deliver the nice conclusion to the whole class by writing on the chalkboard or flipchart and speaking loudly so that those who have low hearing ability or visual impairment get what you say.

13.6. Summary of the unit

GBV is a complex phenomenon that affects both males and females differently, women and girls being the most affected. And it refers to any act of violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to someone on the basis of their gender or sex, with gender and sex being two different concepts whereas gender is a social construct that distinguish masculine from feminine roles, behaviour, activities and attributes in a given time while sex is a biological classification of people as male or female and bound to be permanent.

These socially contacted characteristics result into in discriminatory cultural beliefs and attitudes that give path to GBV that disproportionately women and girls as they are regarded to be less powerful in most society and cultures. GBV is usually perpetrated by individuals who hold a position of power or control others, whether in the private or public sphere who in most cases are known to the victim. GBV takes various form that can be categorized as physical violence, verbal violence and hate speech, emotional and psychological violence, sexual violence, socio-economic violence and domestic violence.

Though consequences of GBV are more disastrous for the primary victim, these go beyond to affect their families, communities, and society at large. These consequences include physical; sexual and reproductive health; emotional/psychological; social and cultural consequences; and economic consequences. Profession tact is paramount in managing GBV cases to avoid victimization and this should be guided at least by these four principles i.e. right to dignity and self-determination, right to confidentiality, non-discrimination, and right to safety.

Countries have primary responsibility to prevent GBV. With this regard, Rwanda has taken significant steps in addressing GBV with zero tolerance to any form of GBV. With the current national policy against GBV, Rwanda seeks to progressively eliminate GBV through the development of a preventive, protective, supportive and transformative environment. Eliminating GBV require multiple partnership and community involvement to alleviate existing gender inequalities through gender analysis, integration and mainstreaming.

13.7. Answers to the end unit assessment

Answer to question 1:

Gender is social construct that determines the roles, behaviour, activities and attributes that a particular society at a given time considers appropriate for men and women, girls and boys. It is shaped by the sociocultural environment and experience in addition to biology and vary widely within and between cultures and often evolve over time. On the other hand, sex is biological classification of people as male or female based on physical and physiological features including chromosomes, gene expression, hormone level and function, and reproductive and sexual anatomy (the table in addition information can also be used).

Answer to question 2:

Gender identity differ from gender expression in that gender identity is about an individual's sense of maleness or femaleness while gender expression refers to how an individual expresses their own gender to the world, i.e. through names, clothes, how they walk, speak, communicate, their roles in society and general behaviour.

Answer to question 3:

Legal factor influence GBV in that there may be laws that do or do not tolerate GBV. In fact, in society where GBV is perceived as shameful and weak and the victims are seen to be guilty of attracting violence trough their behavior, there is under reporting and low level of investigation. Likewise, if the practice that reinforce law favor the perpetrators there is low level of trust in public authority all of which promoting GBV. Inversely, if the law and legal practices do firmly condemn GBV there is high level of trust in public authority, improved reporting and investigation of such cases with reduction in GBV.

Answer to question 4:

GBV affect economically the survivors and their family, and society at large as they have cover direct cost related to medical treatment, hospital visits and other health related services along court related fees. Furthermore, there are cost related to lost productivity, absenteeism, reduced employability (as a result of reduced education/incapacity to focus at work), disability, decreased quality of life and premature death. Other economic repercussions include among others; reduced investments as savings are diverted to medical treatment, costs incurred by the criminal justice system in apprehending and prosecuting offenders and costs associated with case management, counseling and psycho-social support, etc.

Answer to question 5:

True

False

False

True

False

True

Answer to question 6: b

Answer to question 7:

Three examples of GBV forms that are likely to be perpetrated by influential community member may include sexual exploitation, sexual harassment, forced prostitution, battery, and trafficking.

Answer to question 8:

Human trafficking classified as physical GBV because initial coercion is often experienced, and the people involved often end up becoming victims of further violence as a result of their enslavement.

Answer to question 9:

The country has primary responsibility for preventing and responding to gender-based violence. This includes taking all necessary legislative, administrative, judicial and other measures to prevent, investigate and punish acts of gender-based violence, whether in the home, the workplace, the community, while in custody, or in situations of armed conflict, and provide adequate care, treatment and support to victims/survivors.

To that effect country should ensure the following:

- Criminalize all acts of gender-based violence and ensure that national law, policies and practices adequately respect and protect human rights without discrimination of any kind, including on grounds of gender.
- Investigate allegations of GBV thoroughly and effectively, prosecute and punish those responsible, and provide adequate protection, care, treatment and support to victims/survivors, including access to legal counseling, health care, psycho-social support, rehabilitation and compensation for the harm suffered.
- Take measures to eliminate all beliefs and practices that discriminate against women or sanction violence and abuse, including any cultural, social, religious, economic and legal practices.
- Take action to empower women and strengthen their personal, legal, social and economic independence

Answer to question 10:

The four professional guiding principles for GBV case management are: (1) Right to dignity and self-determination, (2) Right to confidentiality, (3) Non-discrimination, and (4) Right to safety.

13.8. Additional information

Difference between Sex and Gender

Sex	Gender
<p>Biological characteristics</p> <ul style="list-style-type: none">• Sex refers to the biological characteristics that define males and females• External and internal sex organs, secondary sexual development at puberty	<p>Socially-constructed characteristics</p> <ul style="list-style-type: none">• Gender refers to the social characteristics that define expected behaviors and roles of men and women, boys and girls• These behaviors, activities and roles are learned through the process of socialization
<p>Does not change over time</p> <ul style="list-style-type: none">• With very few exceptions (surgical intervention), biological characteristics that defines one's sex do not change over time	<p>Can change over time</p> <ul style="list-style-type: none">• The behaviors and acceptable social norms associated with being a woman or a man or being a girl or a boy are socially constructed and therefore can change within a same society from one period of time to the other. For example, women of different generations subscribe to different social norms. Because they are learned, gender norms can be changed
<p>Does not differ across cultures and history</p> <ul style="list-style-type: none">• For example: only women give birth and can breastfeed. This has been the case throughout ages and in all cultures	<p>Differs between and within cultures</p> <ul style="list-style-type: none">• Attributed roles and social characteristics associated with men and women or boys and girls differ over time, and between and within cultures.• For example, in many cultures, some professions are only for men (army, drivers, etc.).

Gender integration entails identifying gender differences and resulting inequalities pertaining to specific programs and projects. Gender integration is the process of addressing these differences and inequalities in the design, implementation, monitoring, and evaluation of programs.

Gender analysis is a systematic way of looking at the different impacts of development, policies, programs, and legislation on women and men that entails, first and foremost, collecting sex-disaggregated data and gender-sensitive information about the population concerned. Gender analysis can also include the examination of the multiple ways in which women and men, as social actors, engage in strategies to transform existing roles, relationships, and processes in their own interest and in the interest of others.

Gender mainstreaming refers to strategy that aims to bring about gender equality and advance women's rights by building gender capacity and accountability in all aspects of an organization's policies and activities, thereby contributing to a profound organizational transformation.

13.9. Additional information to the teacher

13.9.1. Remedial activities

Q1: Outline at least 3 measures taken by our country as a primary responsibility for preventing and responding to gender-based violence

Answer: Taking all necessary legislative, administrative, judicial and other measures to prevent, investigate and punish acts of gender-based violence; criminalize all acts of gender-based violence; and Take measures to eliminate all beliefs and practices that discriminate against women

Q2: The strategies to engage men and boys in addressing harm full culture norms and promoting gender equality include (Select all that apply):

- a. Involving men and boys in policy/programme development
- b. Mainstreaming men engage philosophy into existing programs
- c. Fully participation and involvement of men and boys in increasing public awareness of the value of all children
- d. Education of welfare of all children

Answer: a, b, and c

Q3: What are the possible mental or physical consequences of sexual violence? (Choose all that apply):

- a. There are never consequences to sexual violence
- b. Depression

- c. Drug or alcohol abuse
- d. Anxiety
- e. Cuts and bruises
- f. Sexually transmitted infections
- g. Falling in love with the rapist

Answer: b, c, d, e, and f

13.9.2. Consolidation activities

True or false questions

Q1: The consequences of GBV are the same for everyone

Answer: false

Q2: It is not okay for a husband to beat his wife under any circumstances.

Answer: true

Q3: Women who have been raped are responsible for the incident if they were not dressed properly.

Answer: false

Q4: Husbands can have sex with their wives any time they want to.

Answer: false

Q5: It is okay for men to decide how to use the money of the household without consulting their wives.

Answer: false

Q6: If a 14-year-old girl or boy consents to having sex with an adult in return for material favors, this is considered GBV

Answer: true

Multiple choice question

Q7: What services do survivors of GBV? (Choose only one answer)

- Health care
- Psychosocial support
- Security
- Legal aid
- All of the above
- None of the above

Answer: f

13.9.3 Extended activities

Multiple choice questions

Q1: Which of the following is the most accurate and complete definition of GBV?

- a. Violence against children
- b. Harmful acts against a person's will that is based on gender differences between males and females
- c. Harmful acts that occur within the privacy of the home
- d. Violence between people of the same gender

Answer: b

Q2: Which of the following is an example of "power over"? (choose all that apply):

- a. Parents using physical discipline with their children
- b. A woman choosing for herself when and how to leave the home
- c. Police using their position of authority to exploit someone
- d. A boy deciding what type of fruit to eat
- e. A man deciding how his wife's income will be spent

Answer: a, c, and e

Q3: When GBV occurs, who experiences the most negative impacts?

- a. The survivor
- b. The community
- c. The family
- d. The perpetrator

Answer: a

Q4: Consequences of GBV for a survivor can be

- a. Physical
- b. Emotional / Psychological
- c. Social
- d. All of the above

Answer: d

Q5: Sexual violence is the fault of the perpetrator (choose only one answer)

- a. Not at all
- b. Sometimes
- c. Usually
- d. Always

Answer: d

Q6: What should you consider or say if a GBV survivor discloses to you? (Choose all that apply)

- a. I am not a psychologist; you should only tell a psychologist this
- b. Is this a good place for us to talk? Is there another place you would prefer to talk?
- c. I'm sorry that this happened to you
- d. Don't tell anyone else about what happened: you should keep it secret
- e. You must go to the police to report this or you will get in trouble
- f. You are very brave for telling me this
- g. I believe you
- h. It was not your fault

Answer: b, c, e, f, g, and h

Q7: Which of the following are forms of sexual violence against men and boys? (Choose all that apply)

- a. Being forced to sexually penetrate another person
- b. Forced labour
- c. Exchanging sex for basic goods
- d. Detention in prisons
- e. Beating of the genitals
- f. Being forced to be naked
- g. Being coerced to watch the rape of another person
- h. Forced recruitment into the military

Answer: a, c, e, f and g

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